

FIG.1

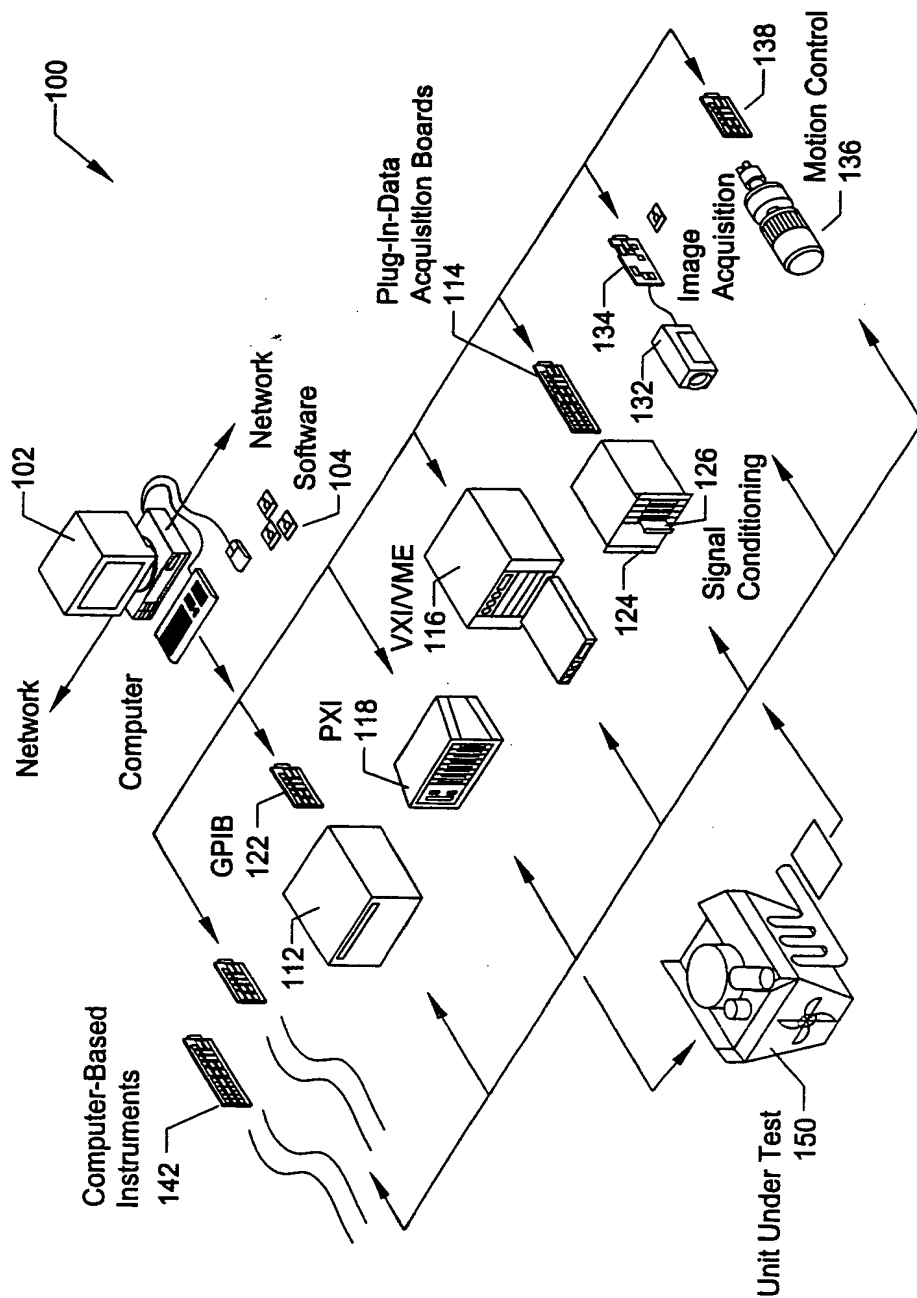


FIG. 2A

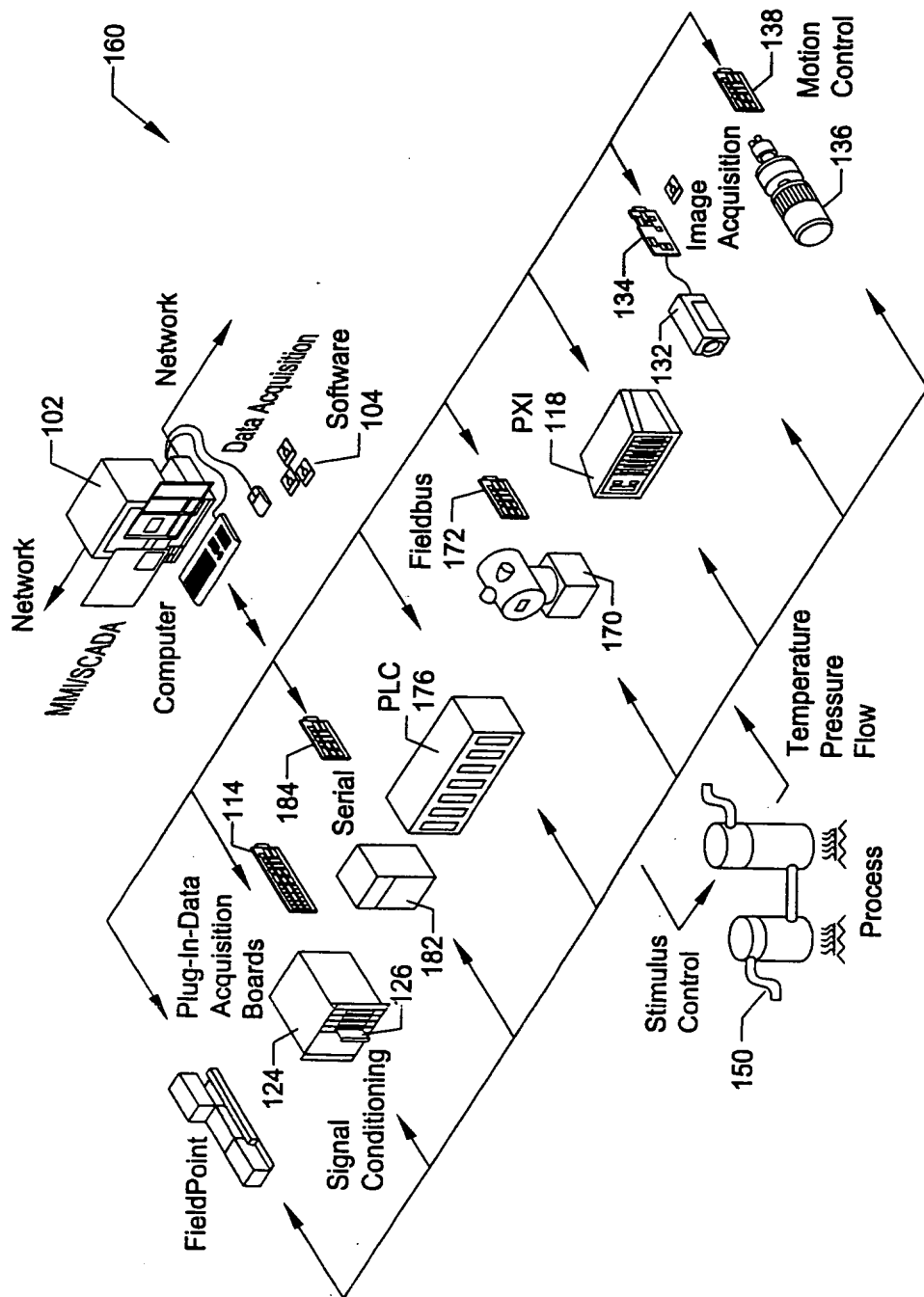


FIG. 2B

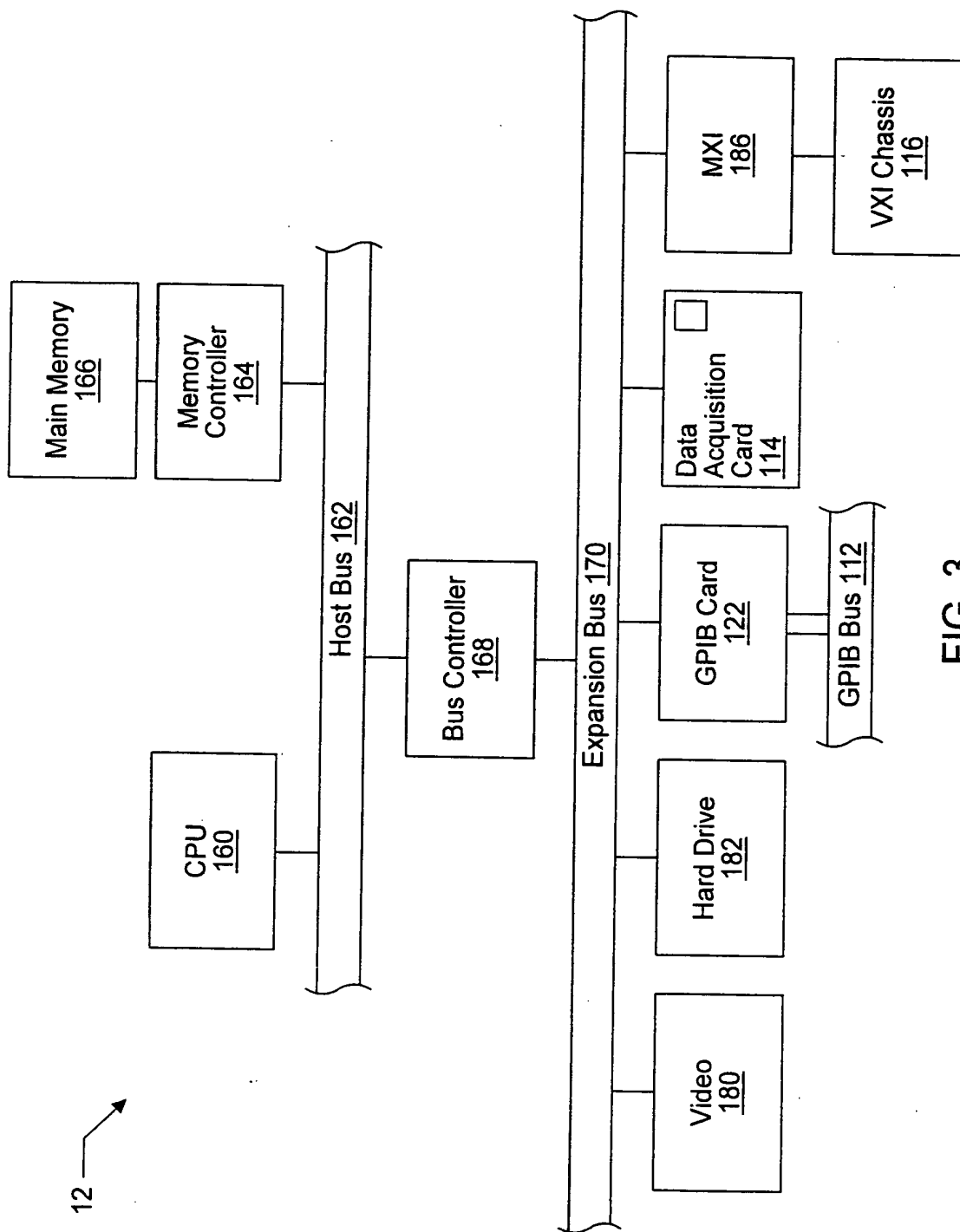


FIG. 3



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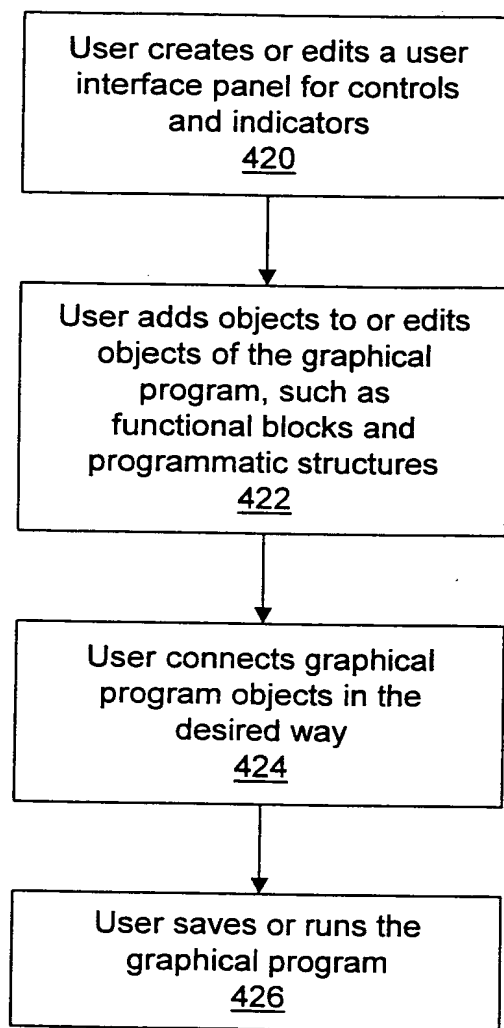


FIG. 4
(PRIOR ART)

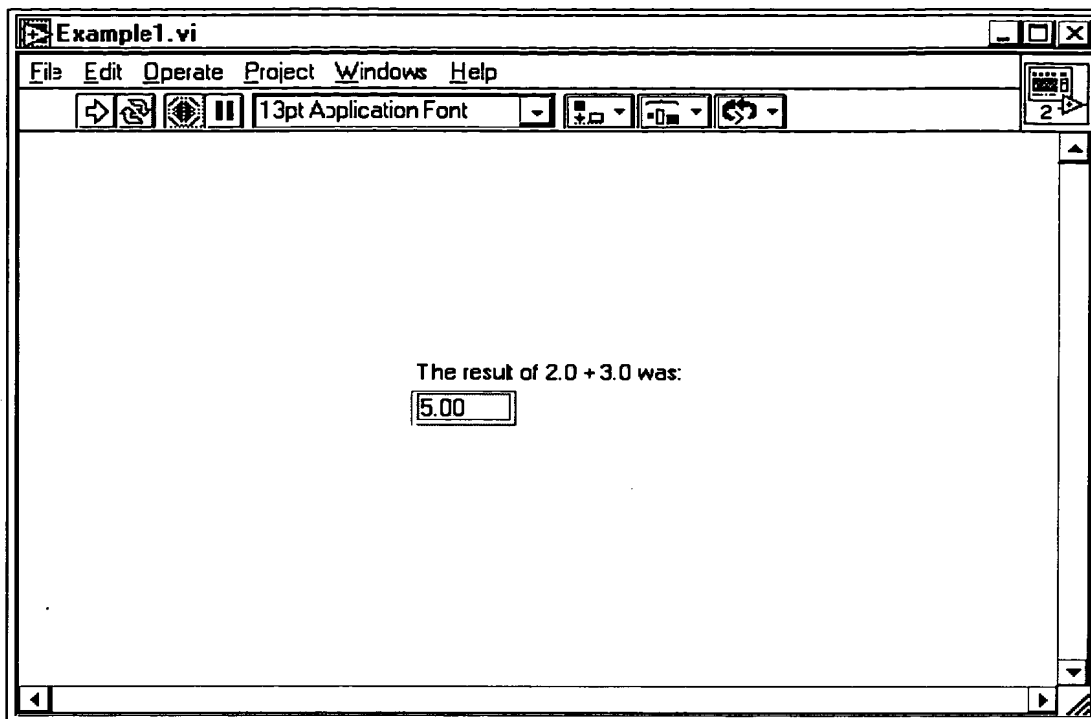


FIG. 5A
(PRIOR ART)

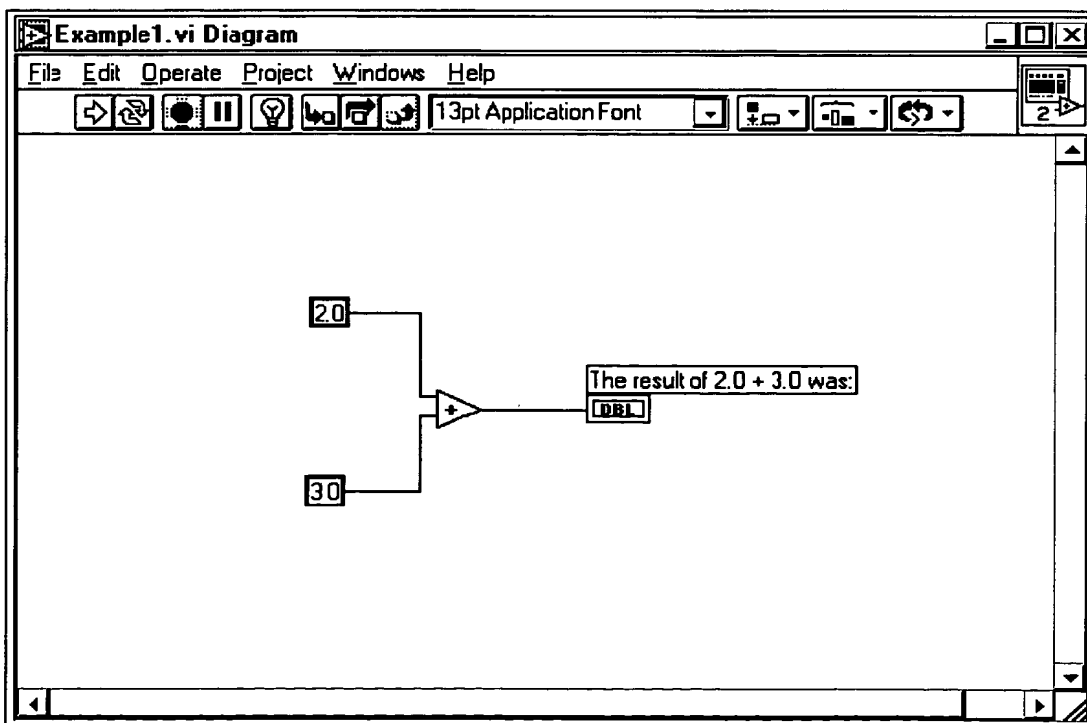


FIG. 5B
(PRIOR ART)

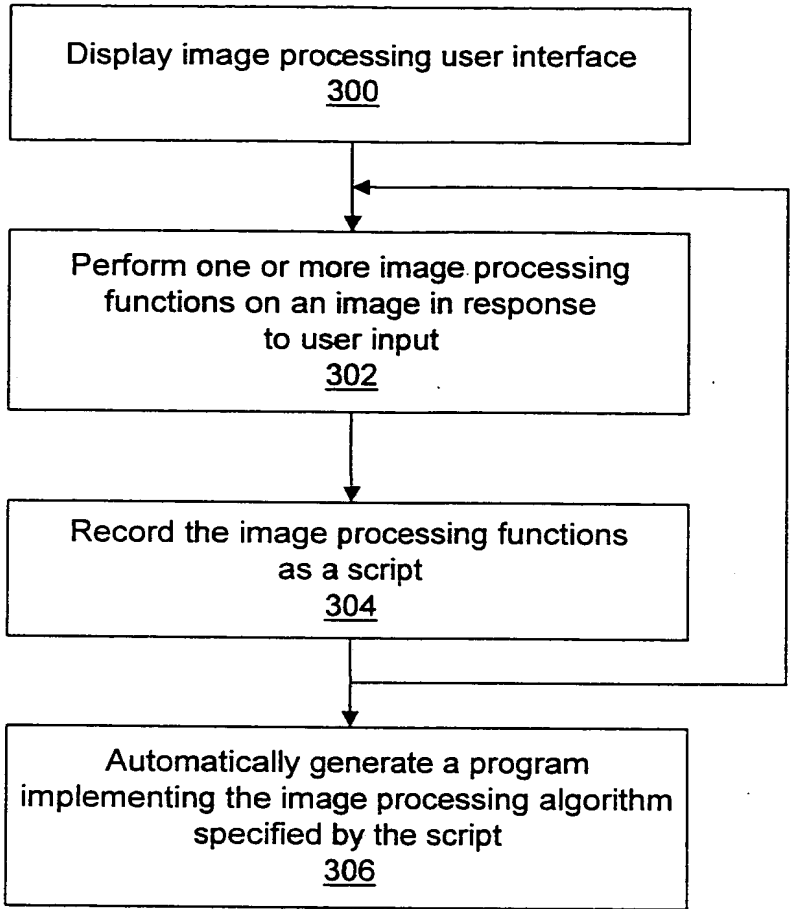


FIG. 6

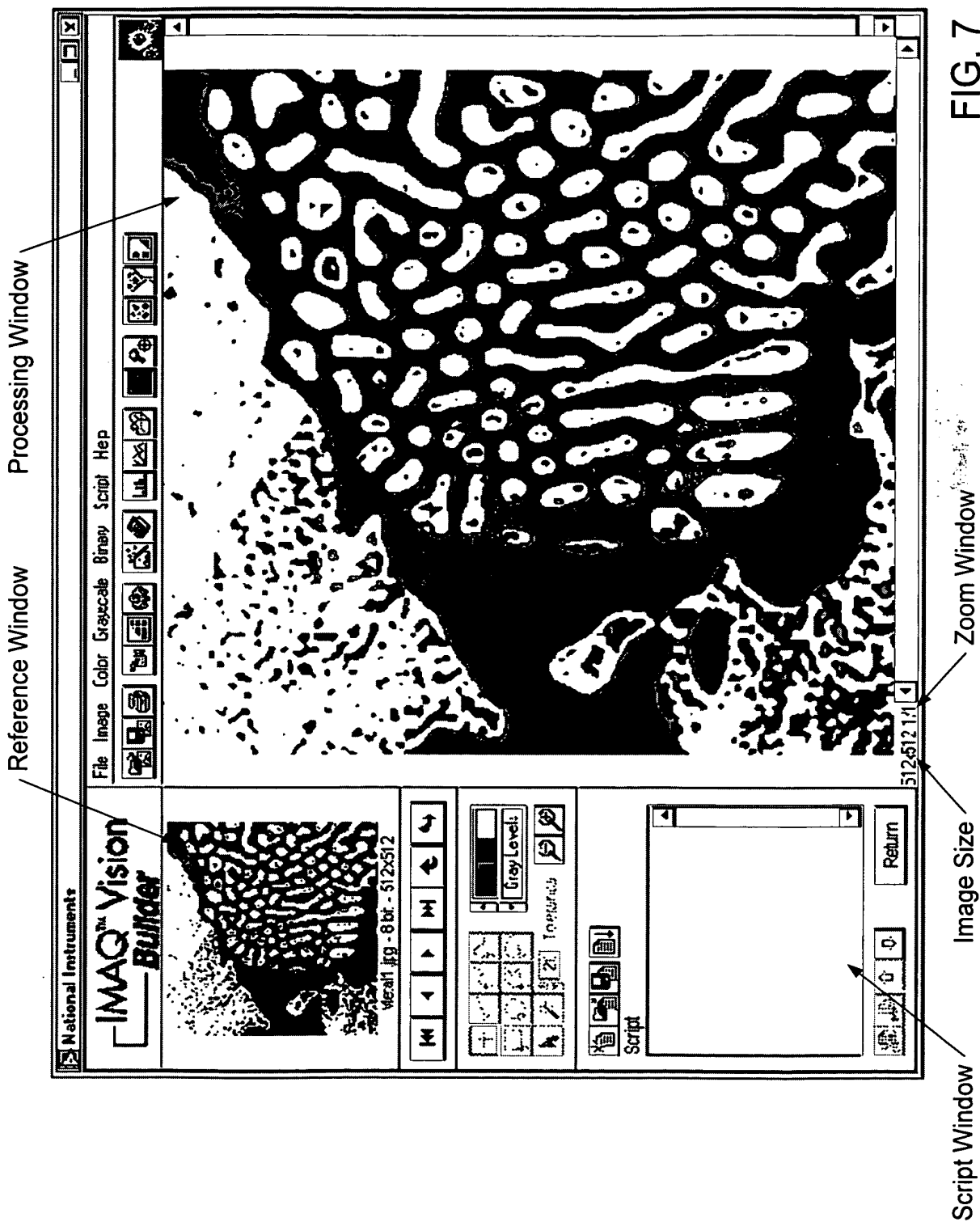


FIG. 7

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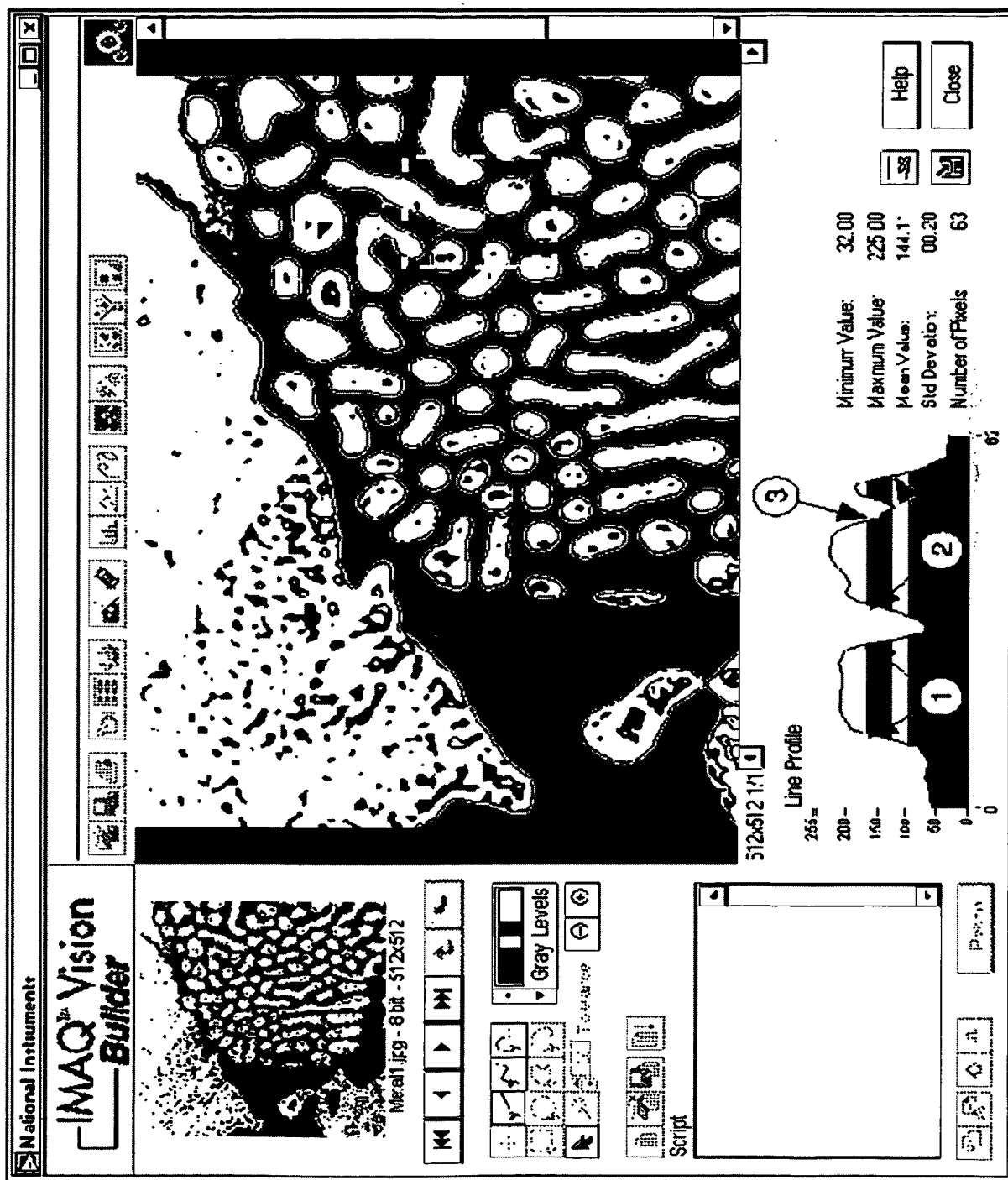


FIG. 8

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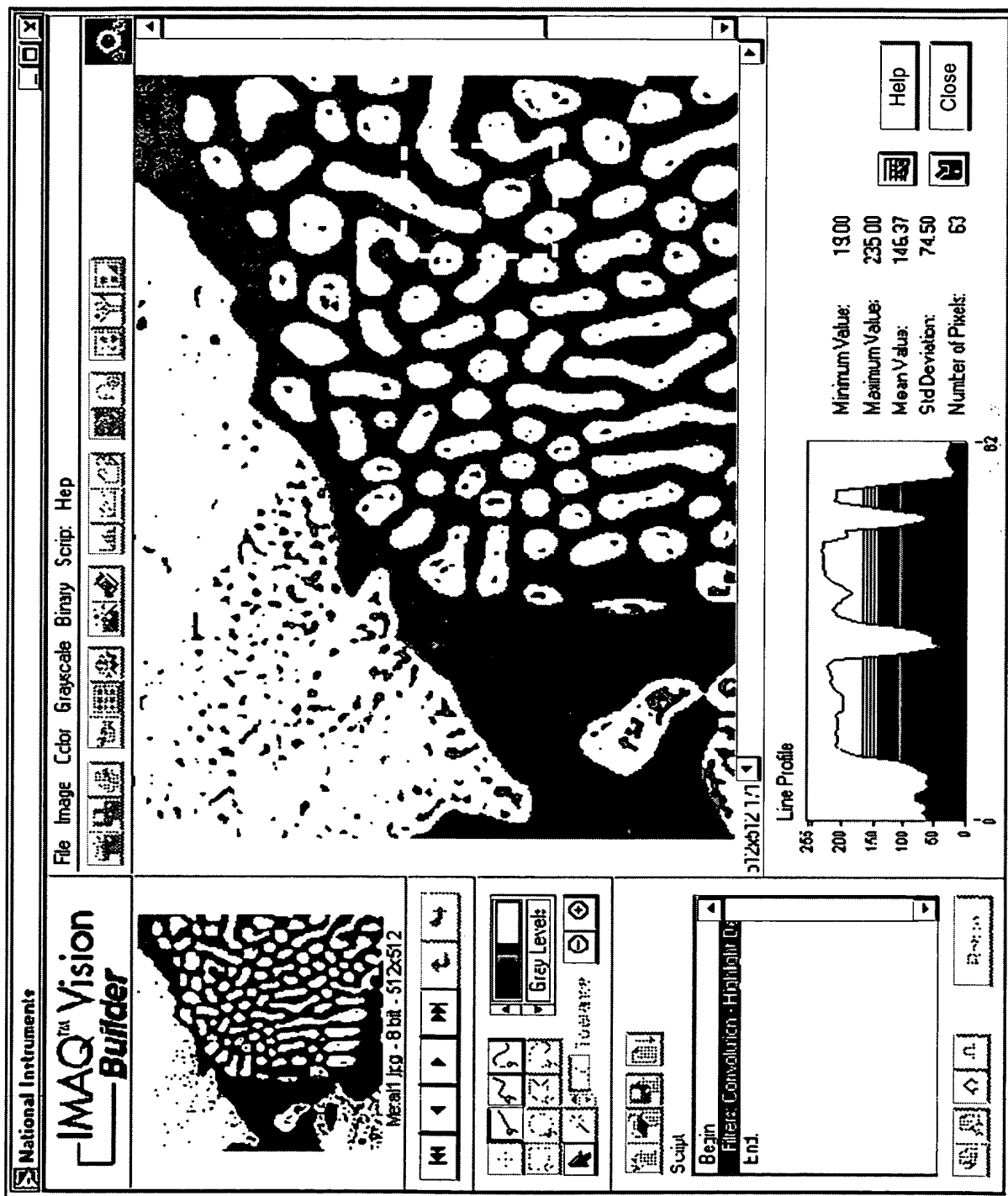


FIG. 9

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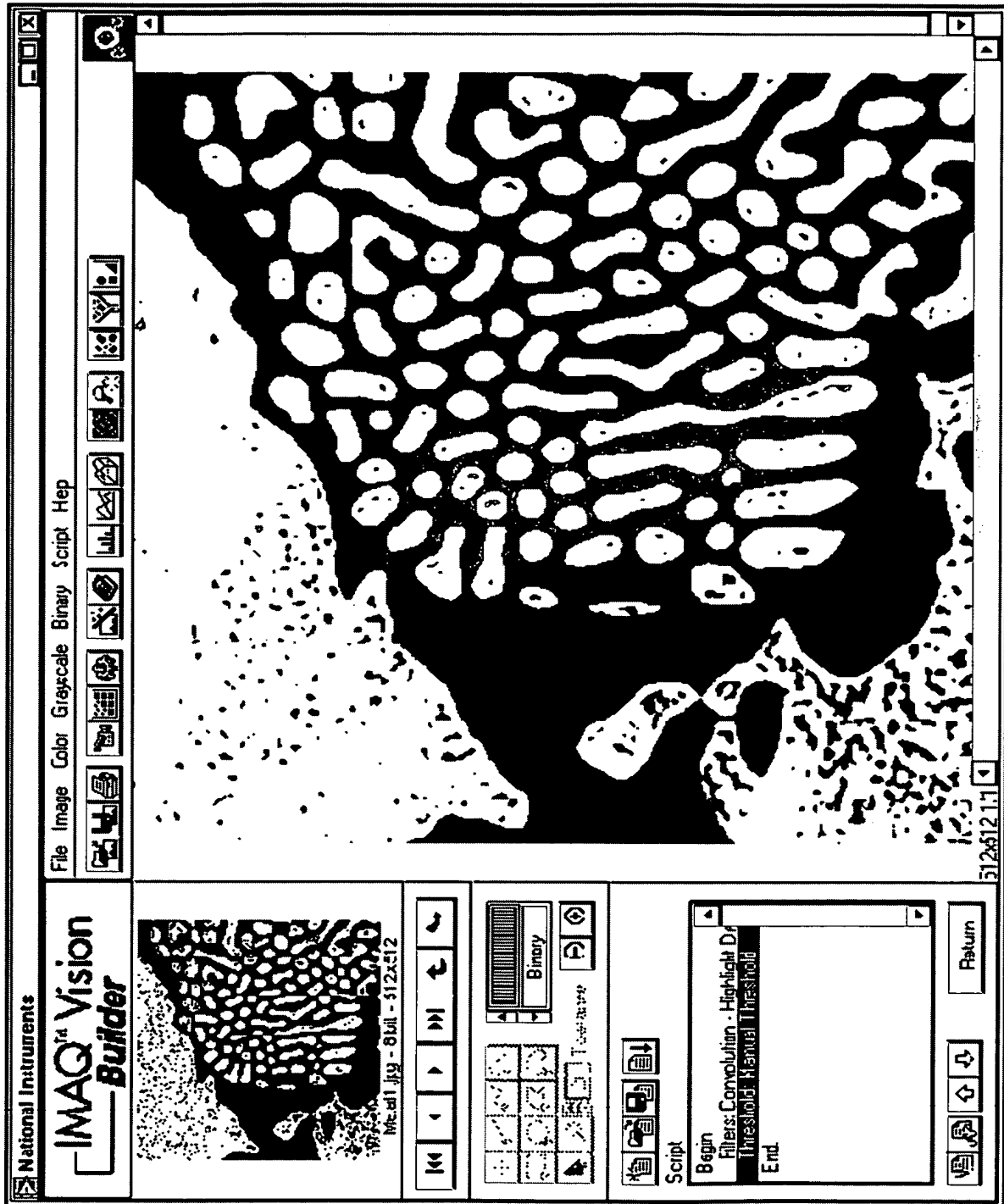


FIG. 10

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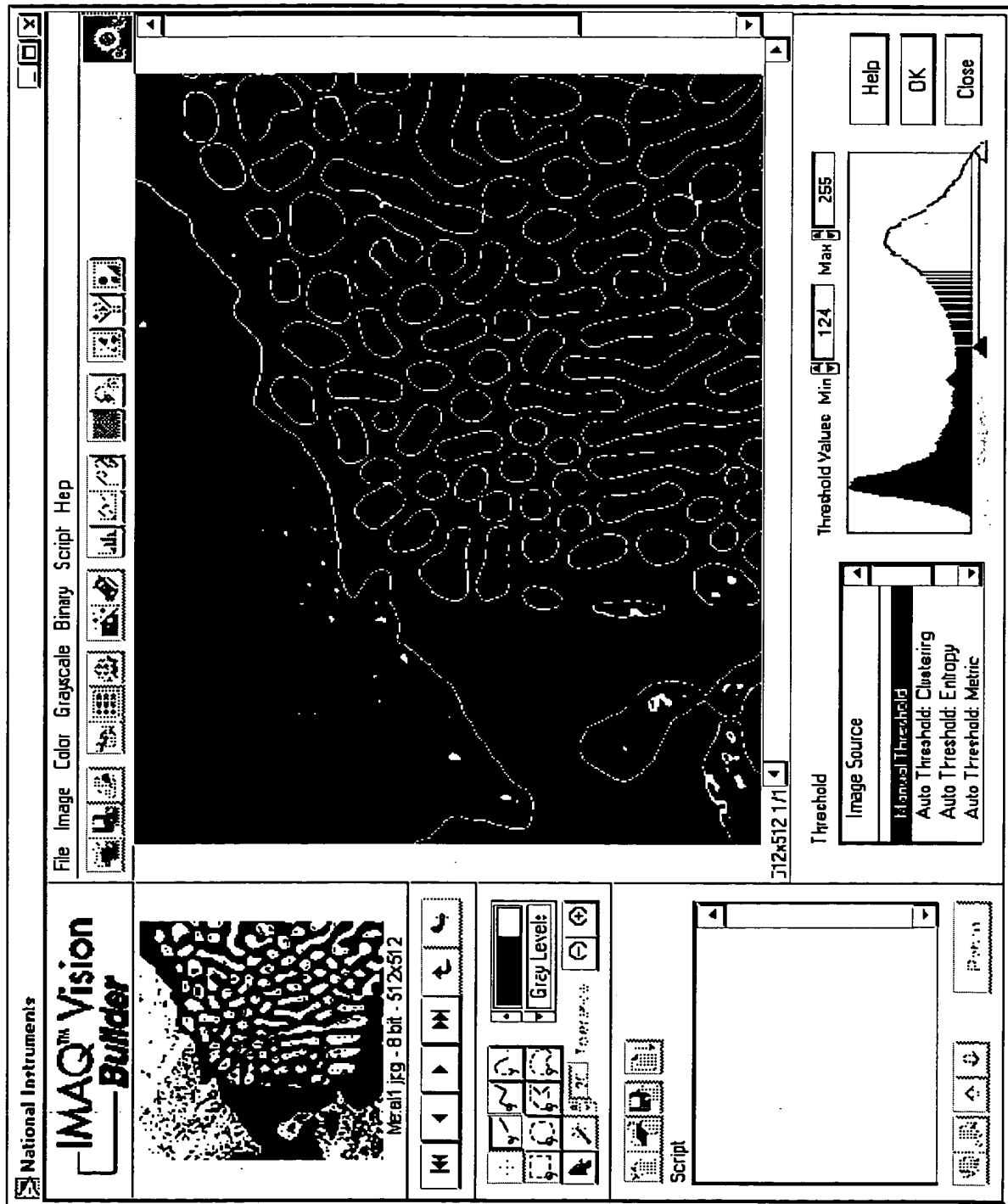


FIG. 11



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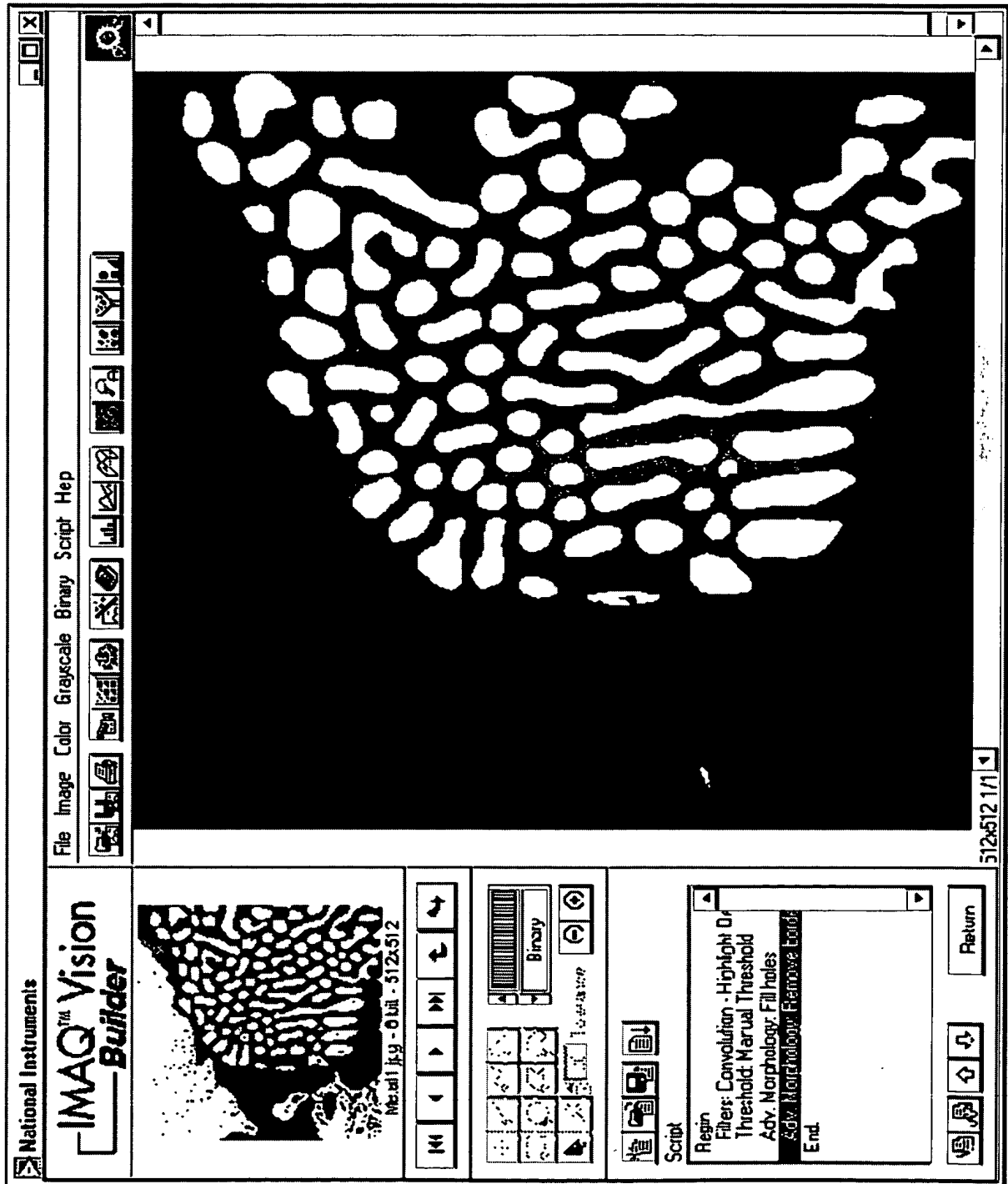


FIG. 12

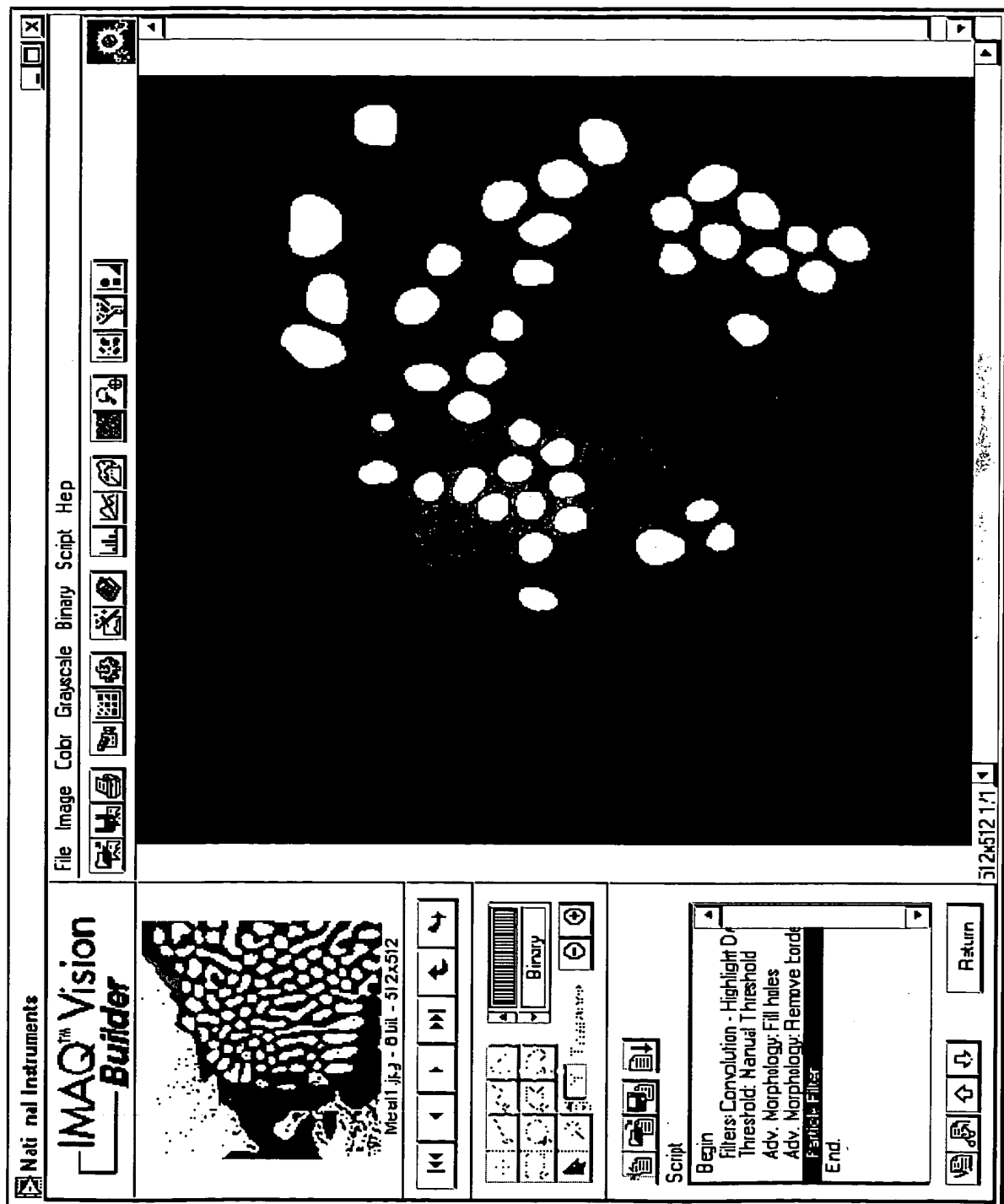


FIG. 13

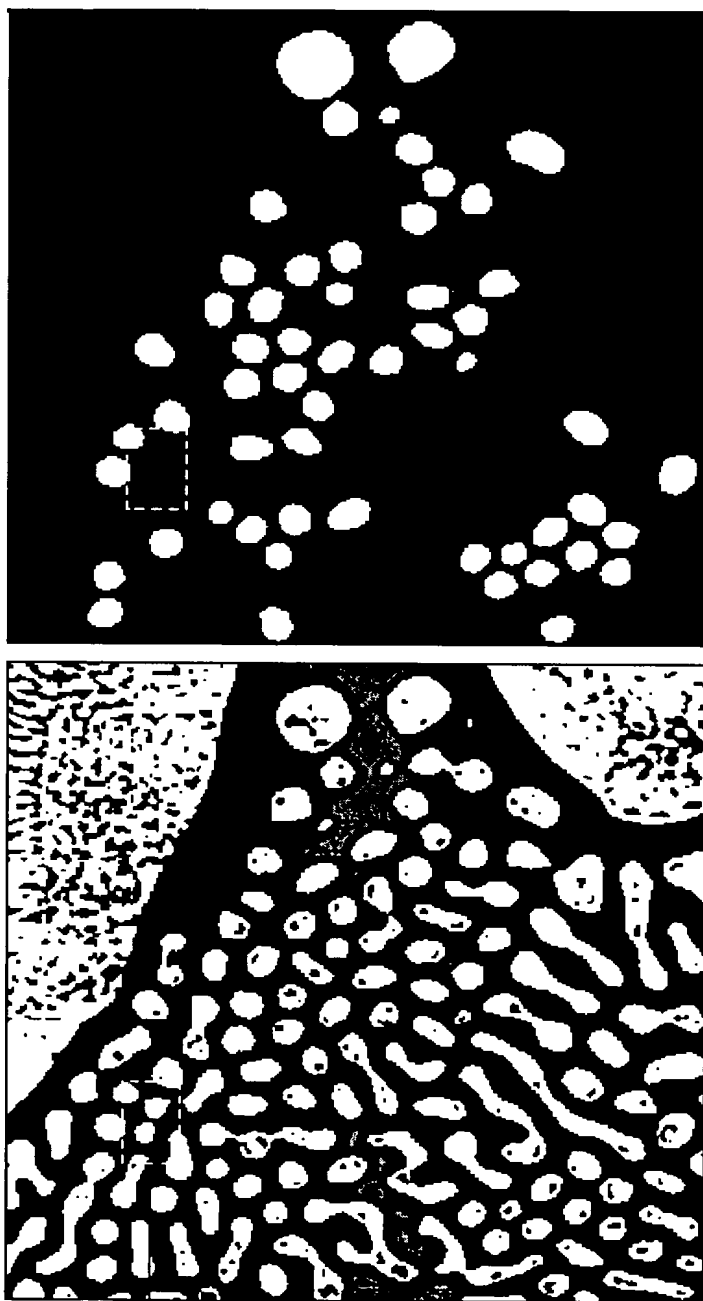


Image after Processing

Original Image (Metal3.jpg)

FIG. 14



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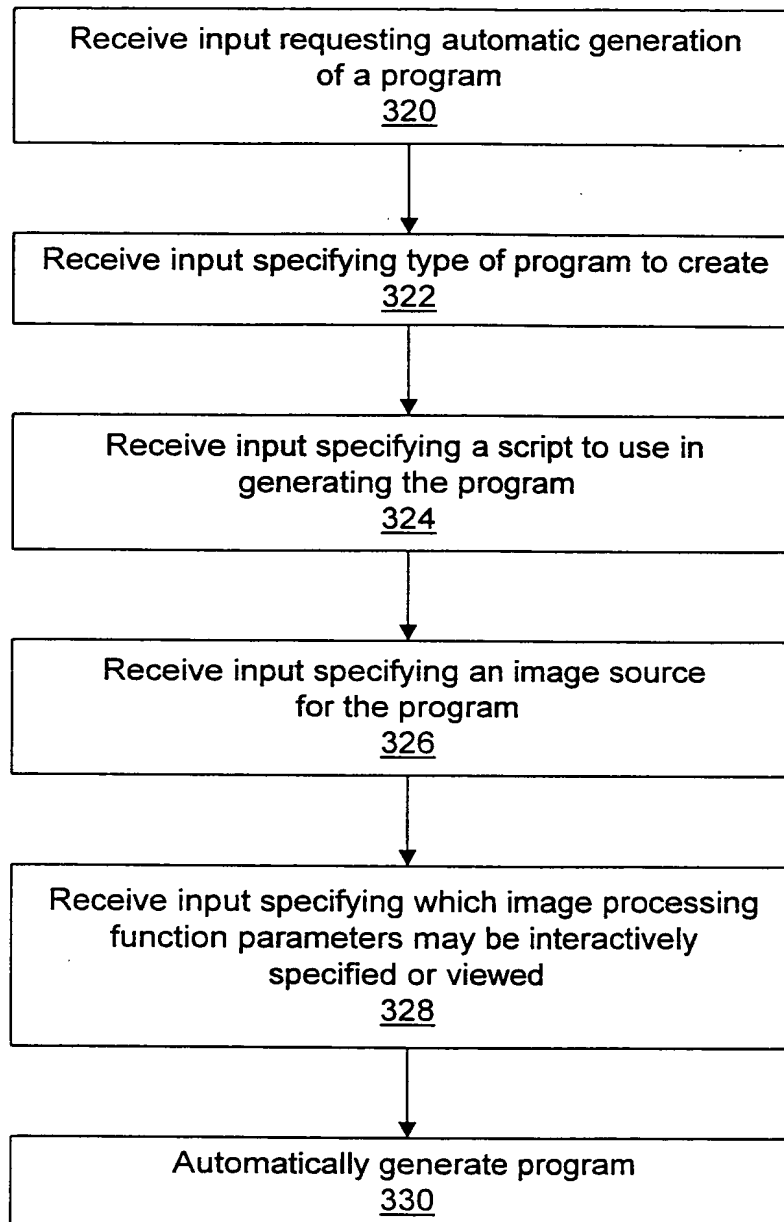


FIG. 15



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New

LabVIEW
LabWindows/CVI
Microsoft Visual Basic
Microsoft Visual C++
Builder File

Name: Project

Location: E:\...\Solutions

Would you like to generate a project or a single file

☒ Whole project
☐ One file

OK Cancel

FIG. 16

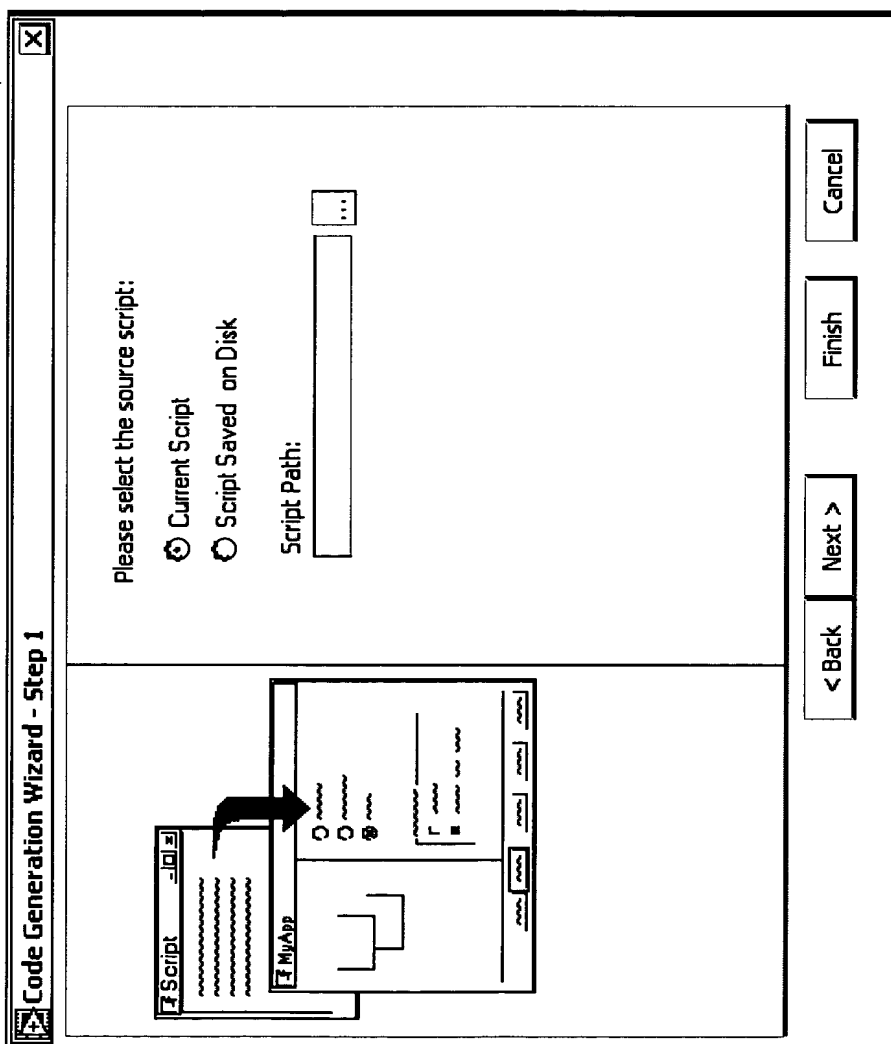


FIG. 17

Code Generation Wizard - Step 2

Please select the image source:

☒ Image file
☐ IMAQ frame grabber
☐ None

Acquisition type

☒ Snap
☐ Triggered acquisition

< Back Next > Finish Cancel

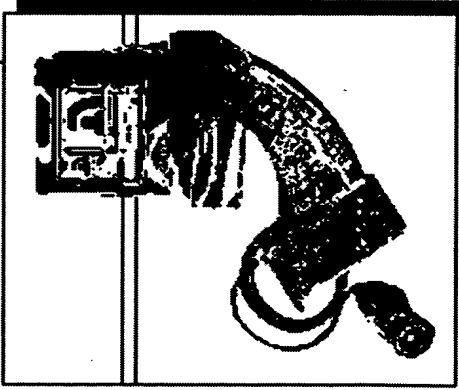


FIG. 18

Code Generation Wizard - Step 3

Please select which parameter you want to be editable or hardcoded

Inputs	Outputs
<div>Step 1 <input checked="" type="checkbox"/> Image Src Kernel Step 2 <input checked="" type="checkbox"/> Range Step 3 Step 4 Step 5 Keep Particles Selection Values</div>	<div>Step 5 <input checked="" type="checkbox"/> Complex Reports <input checked="" type="checkbox"/> Number of particles</div>

The parameters that are checked will be shown on the Front Panel for editing or viewing.

< Back Next > Finish Cancel

FIG. 19

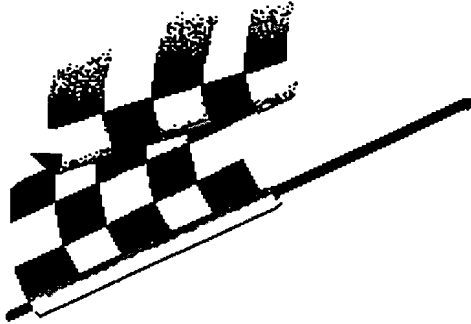


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Code Generation Wizard - Step 4

IVB Wizard creates the following files for you:

File name:	Summary
<input type="text"/>	<input type="text"/>



< Back Next > Finish Cancel

FIG. 20



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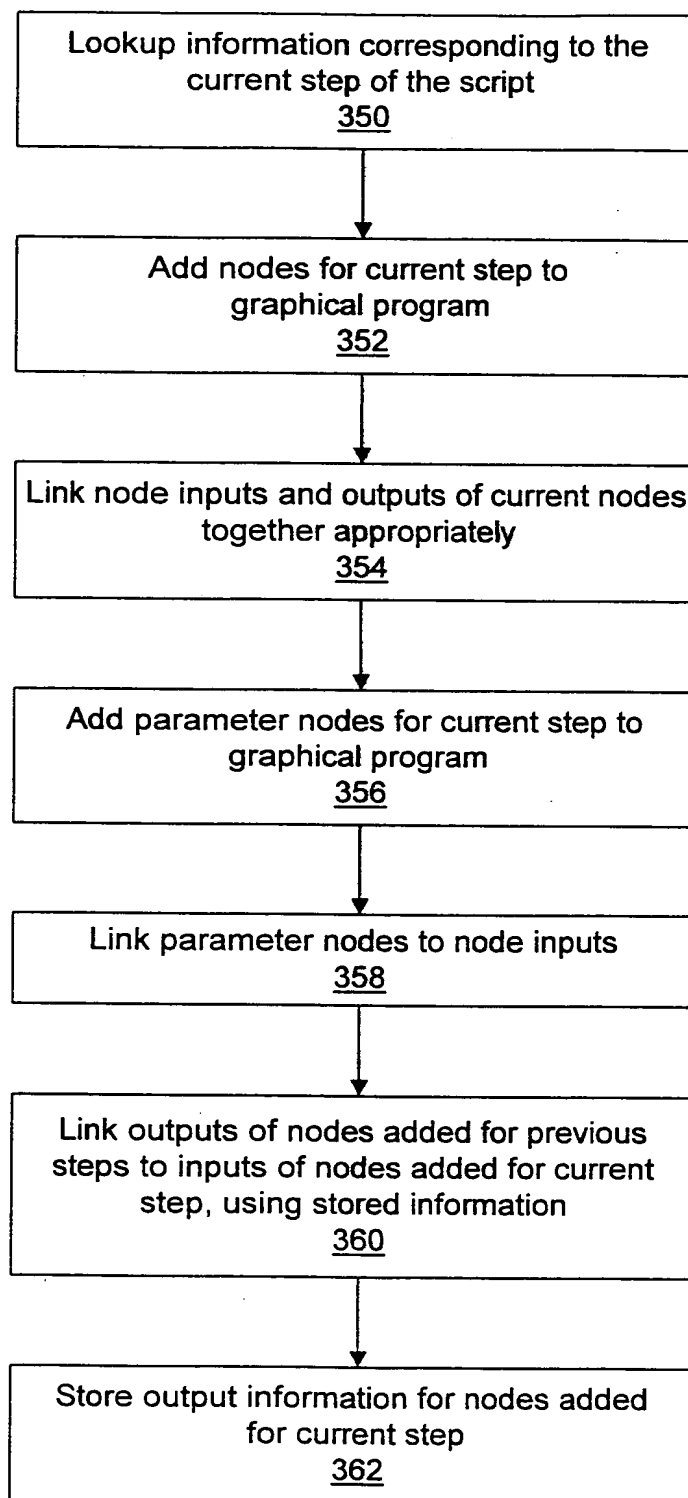


FIG. 21

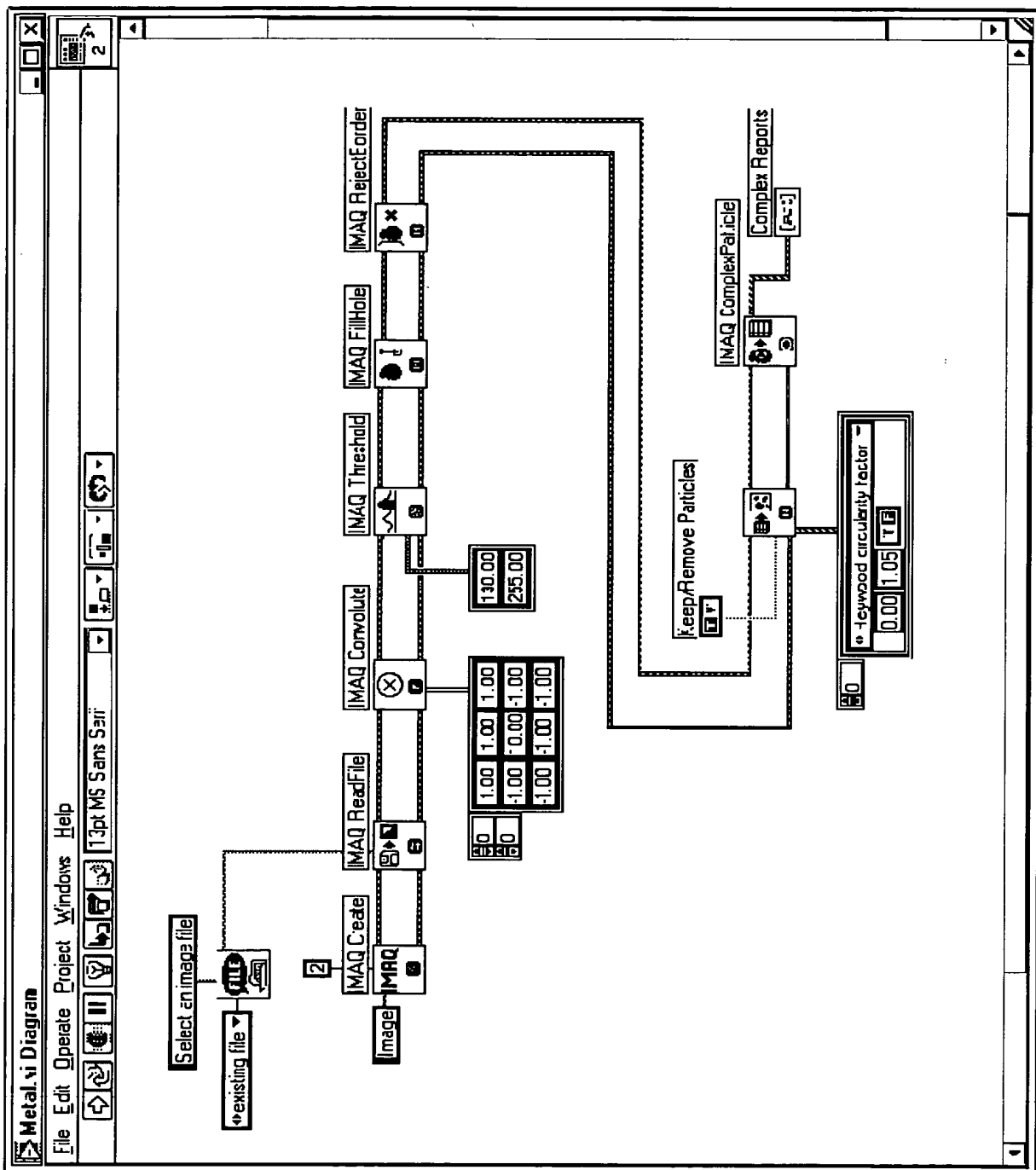


FIG. 22

IvB Tutorial Sample.vi

File Edit Operate Tools Browse Window Help

13pt Application Font

Image Src

Range

Lower value	Upper value
120.00	255.00

Complex Reports

Area (pixels) Global Rectangle

Area (calibrated)

Perimeter

Number of Holes

Hole's Area (pixels)

Hole's Perimeter

Longest Segment

Longest Coordinates Segment

Projection x

Projection y

Number of Particles



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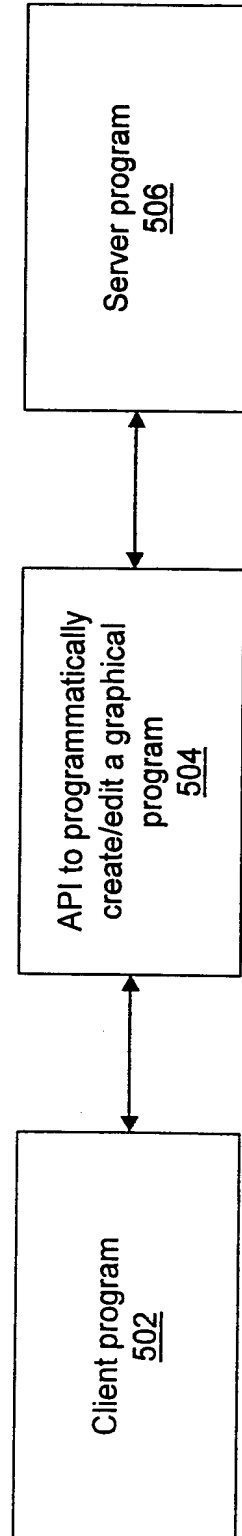


FIG. 24

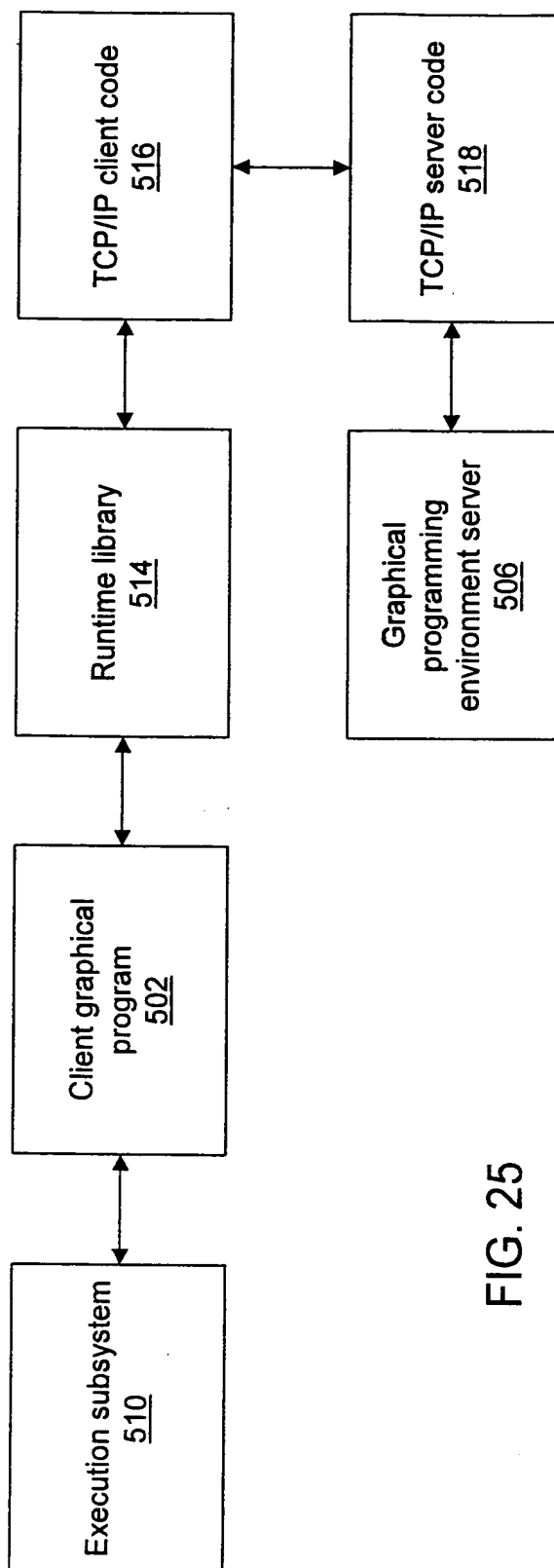


FIG. 25

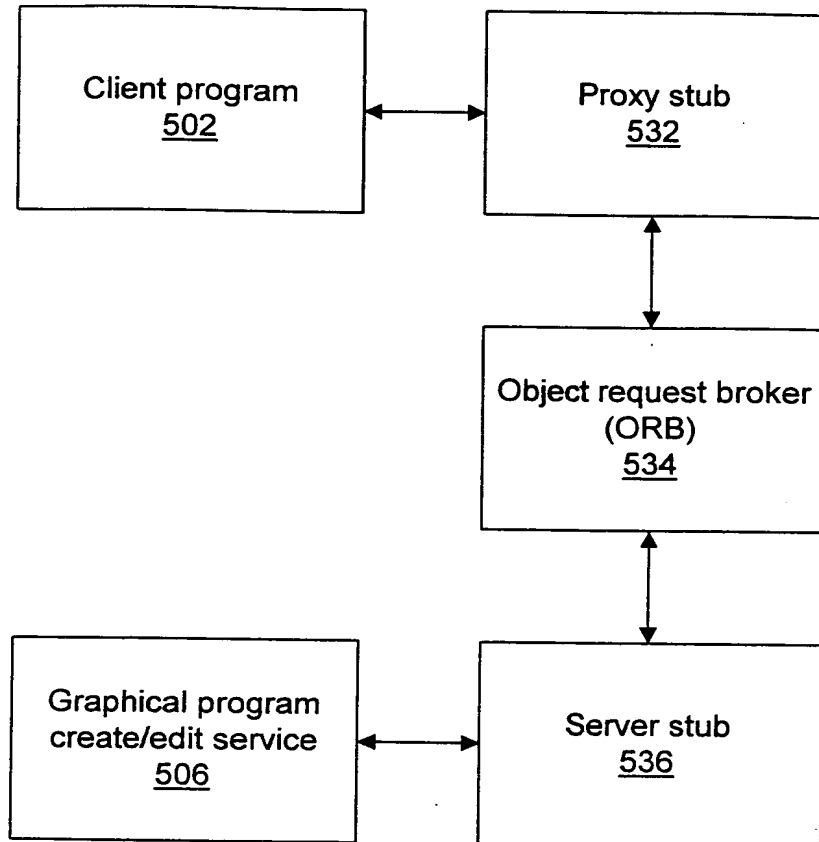


FIG. 26

Open Application Reference Node

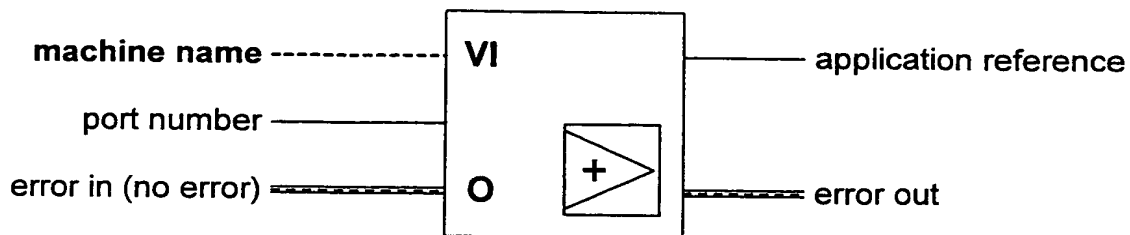


FIG. 27

Open VI Reference Node

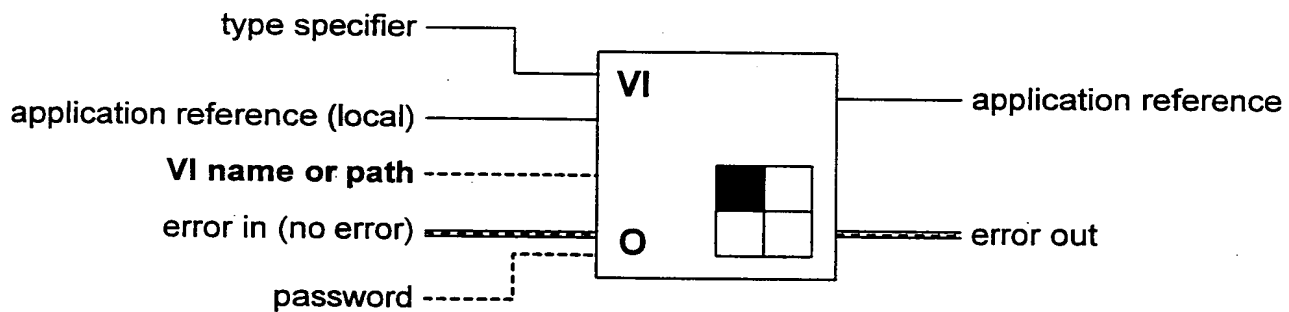


FIG. 28

New VI Reference Node

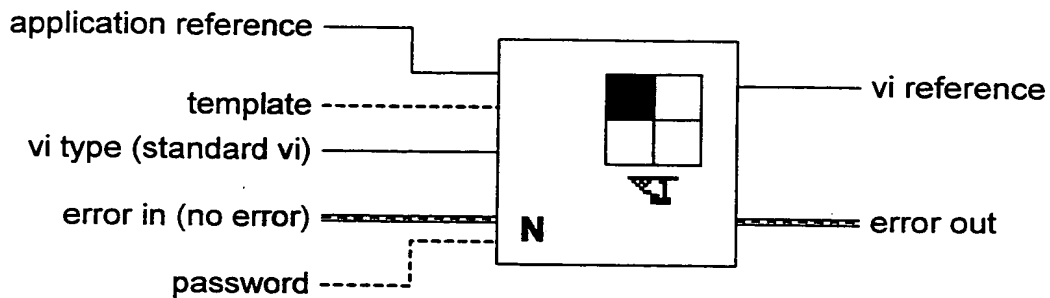


FIG. 29

Open VI Object Reference Node

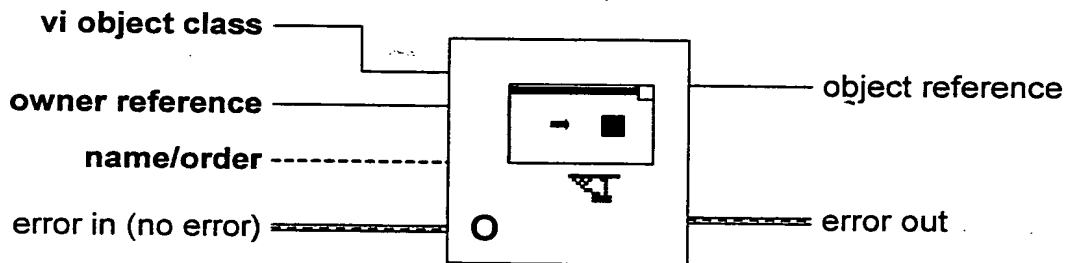


FIG. 30

New VI Object Reference Node

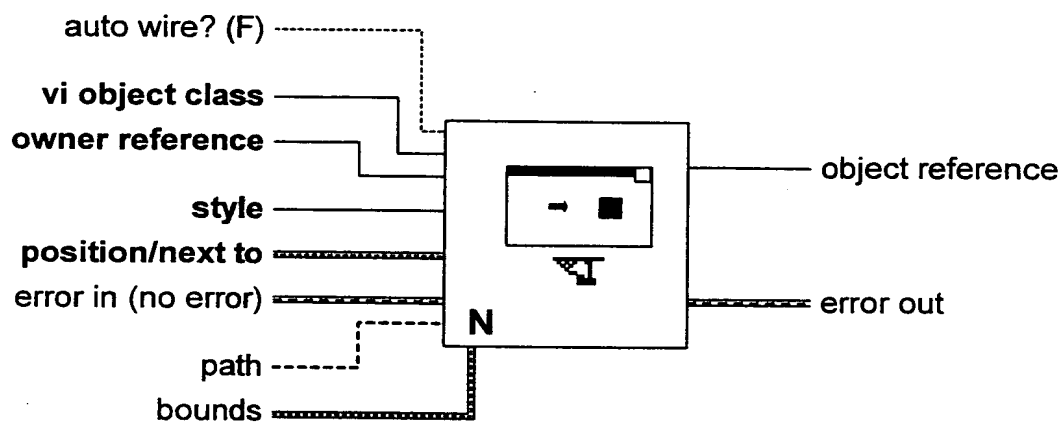


FIG. 31

Upcast Reference Node

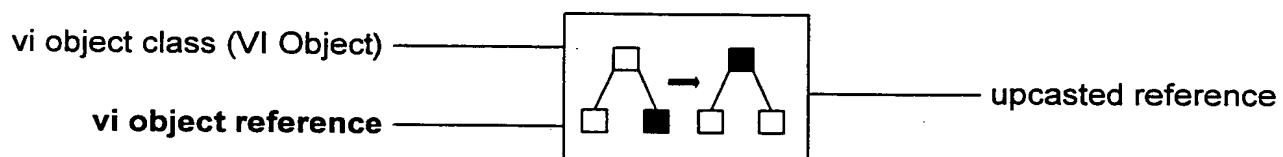


FIG. 32

Downcast Reference Node

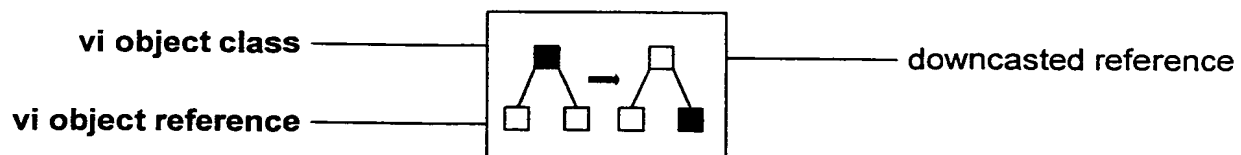


FIG. 33

Close Application or VI Reference Node

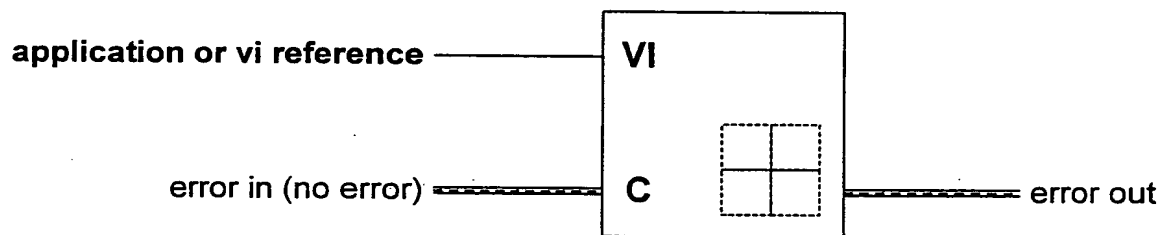


FIG. 34

Call By Reference Node

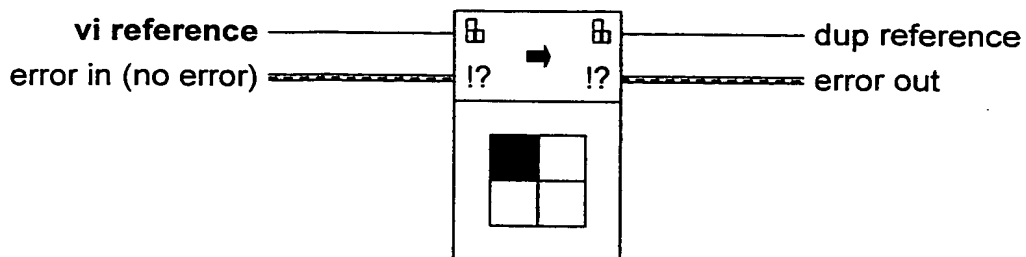


FIG. 35

Property Node

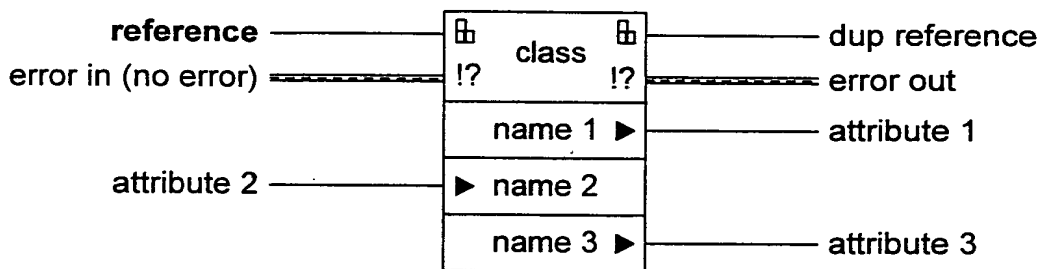


FIG. 36

Invoke Node

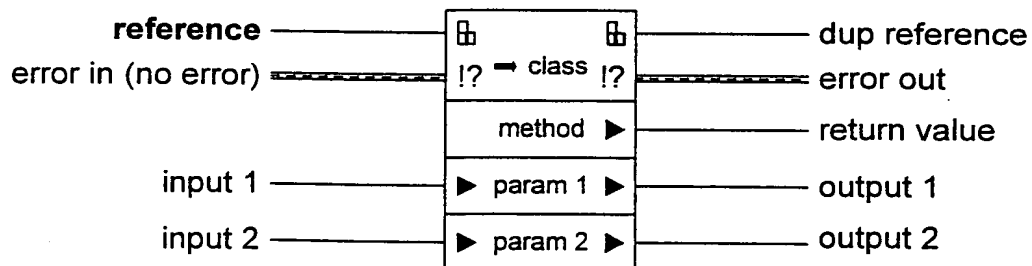


FIG. 37

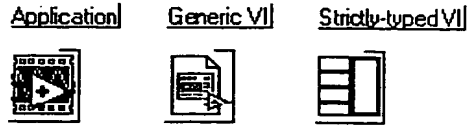


FIG. 38

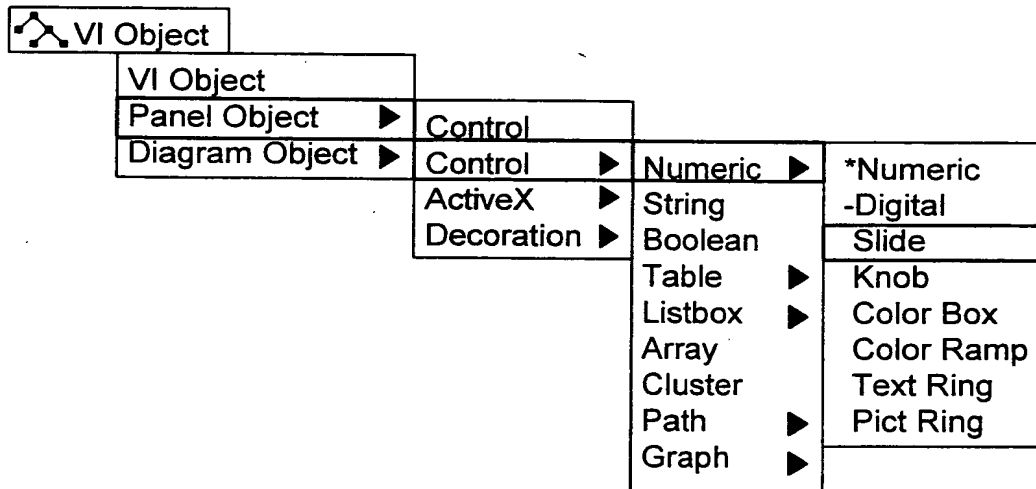


FIG. 39

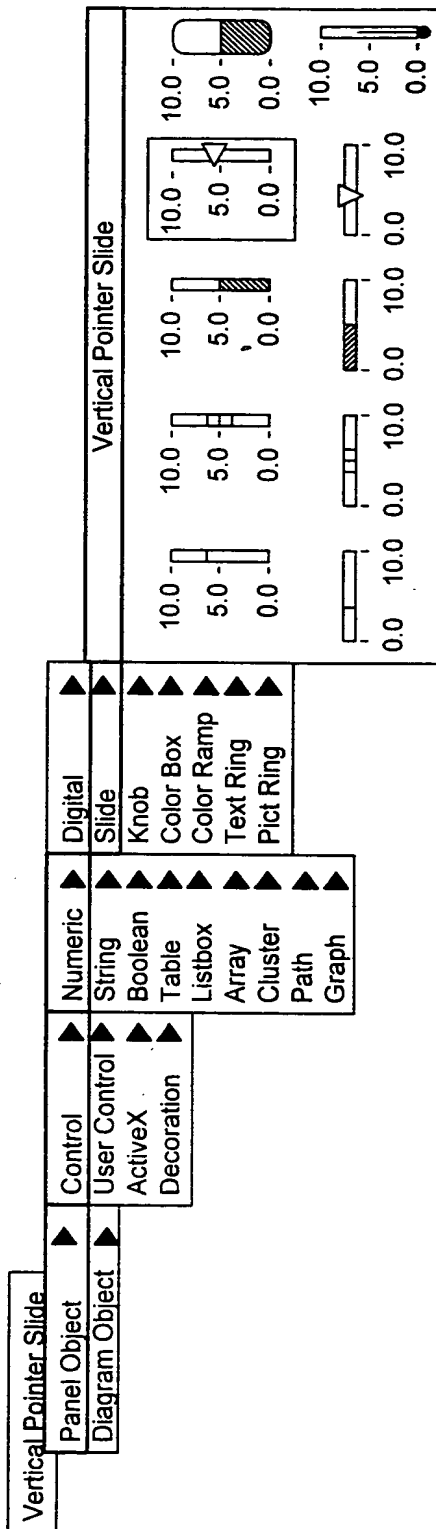
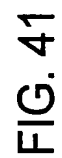
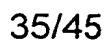


FIG. 40



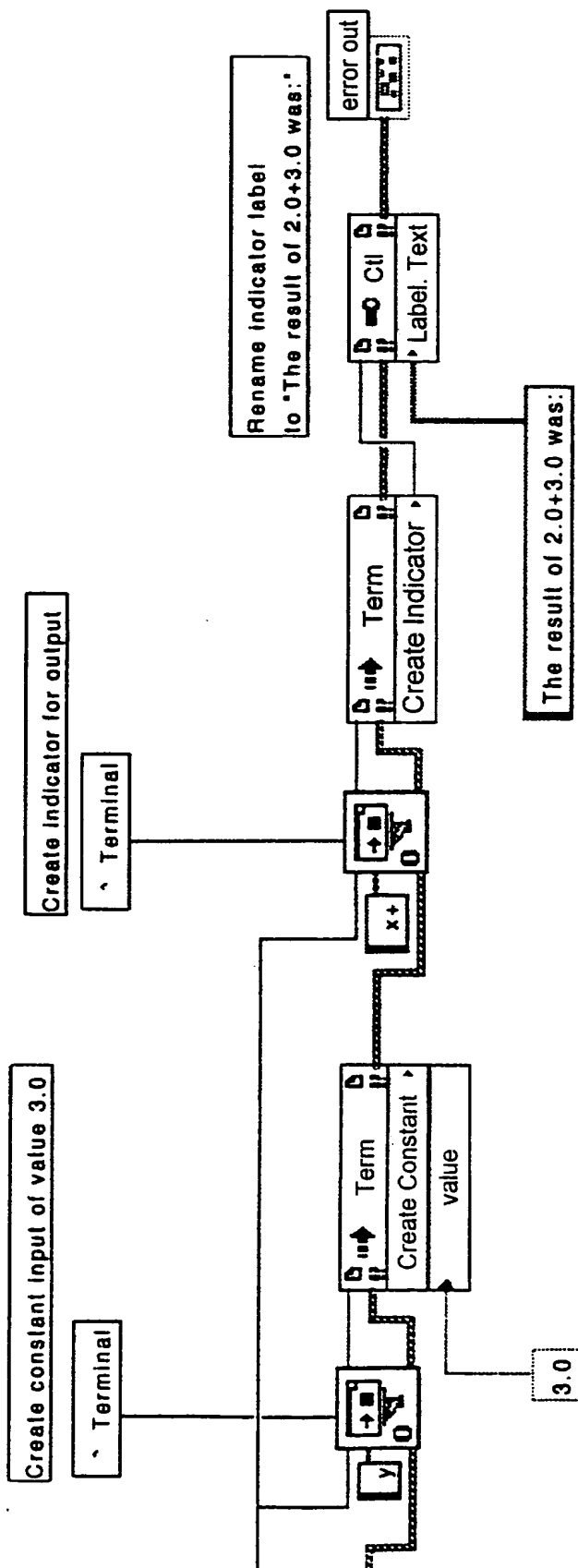
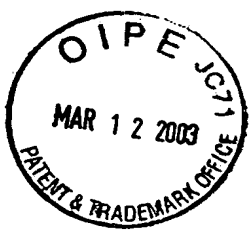


FIG. 41
(Continued)



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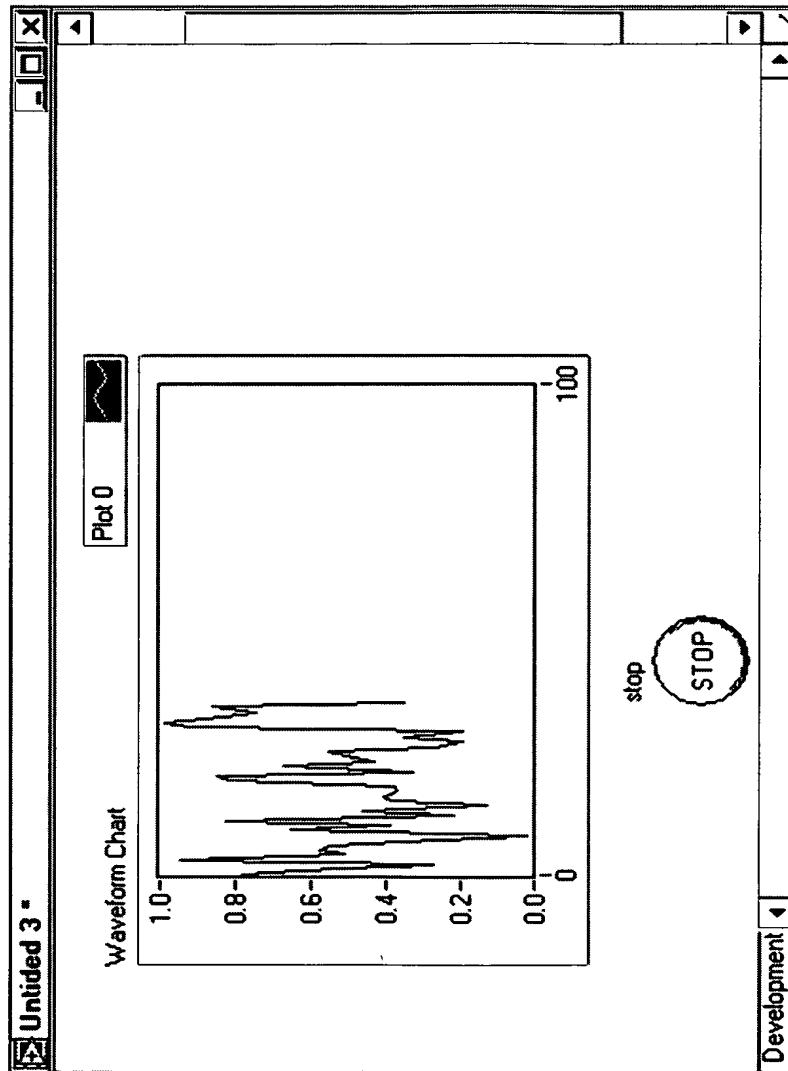


FIG. 42

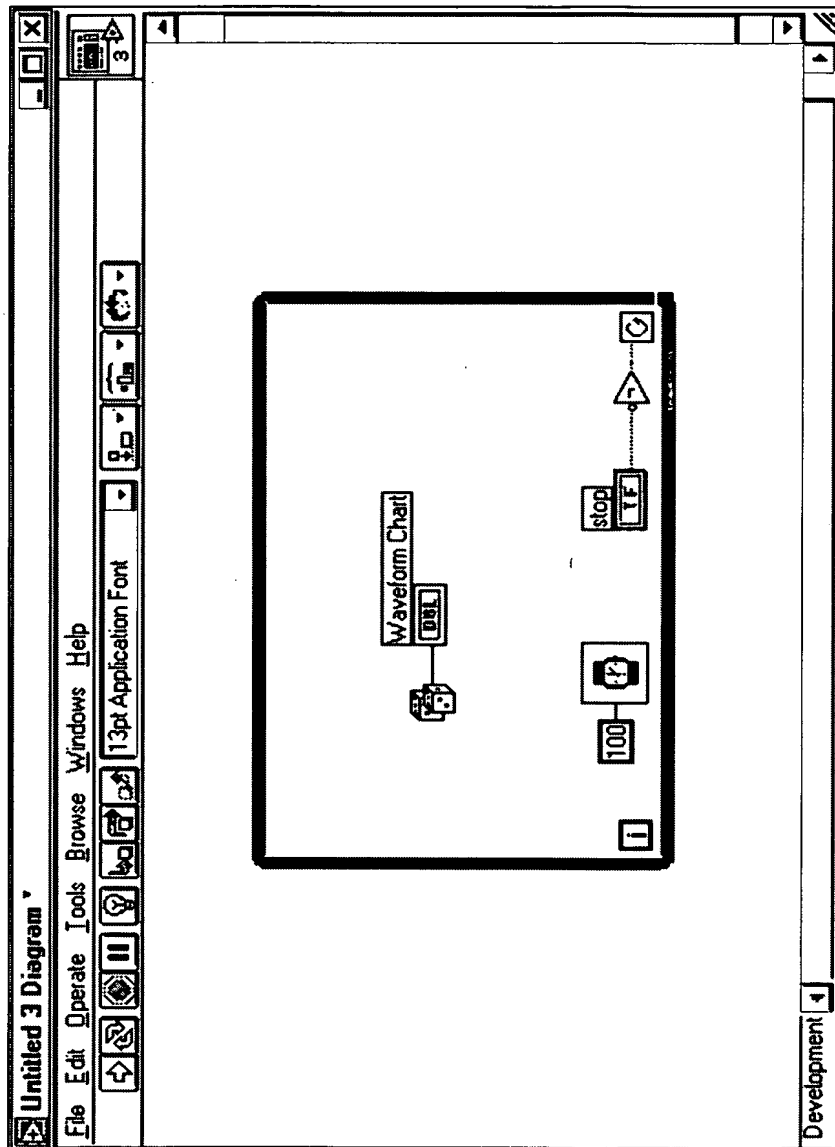
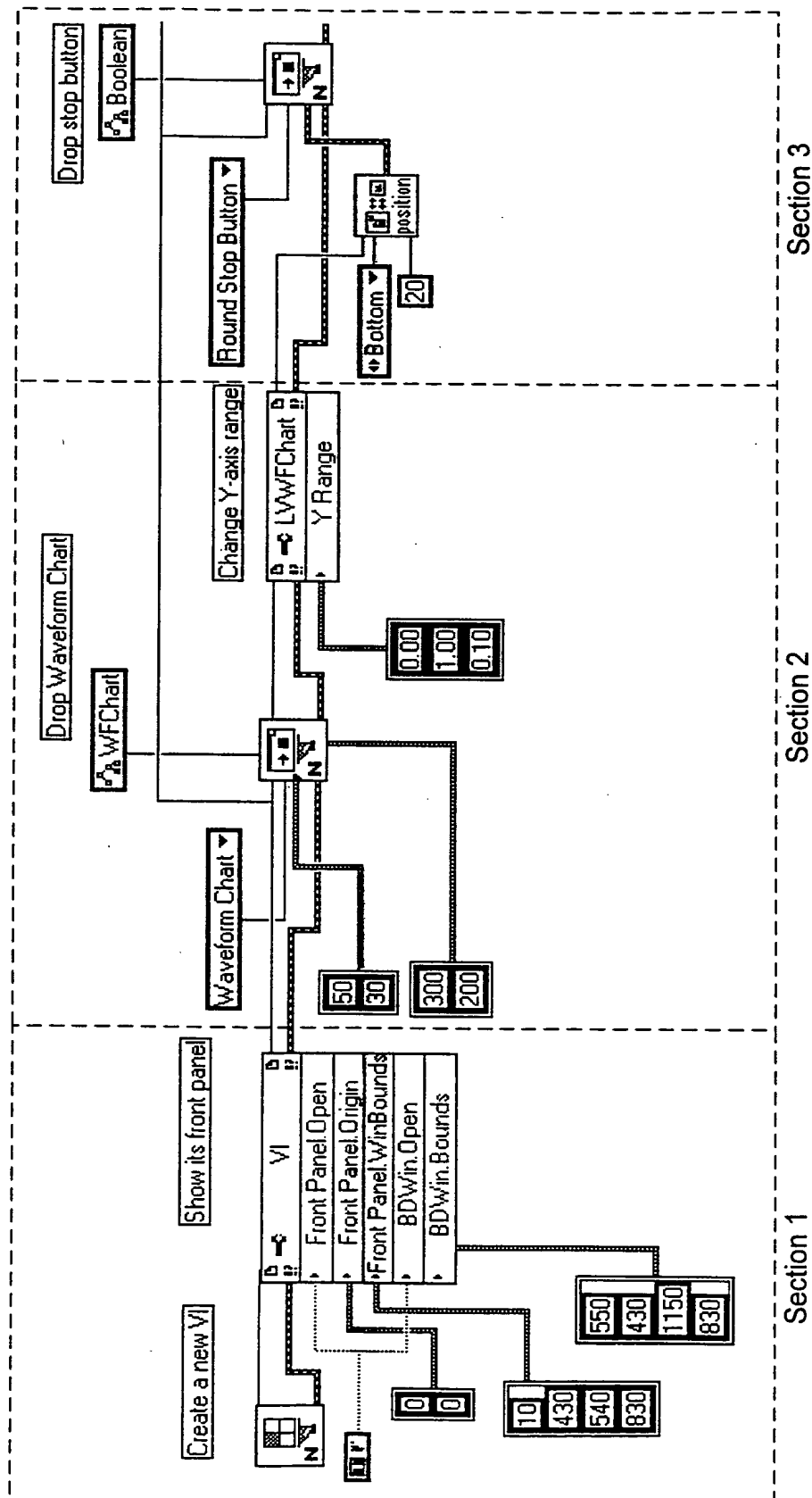


FIG. 43



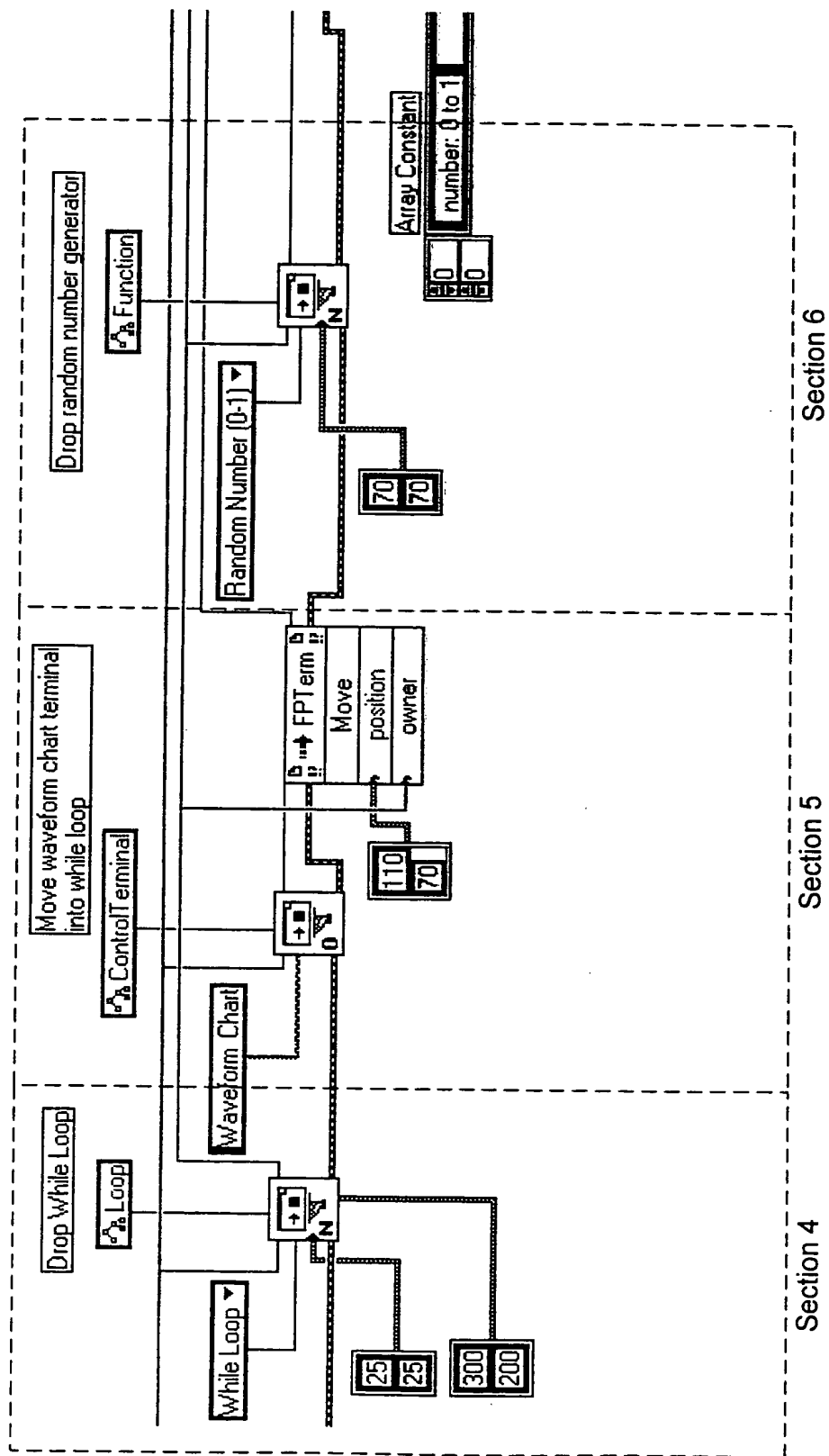


FIG. 44A
(Continued)

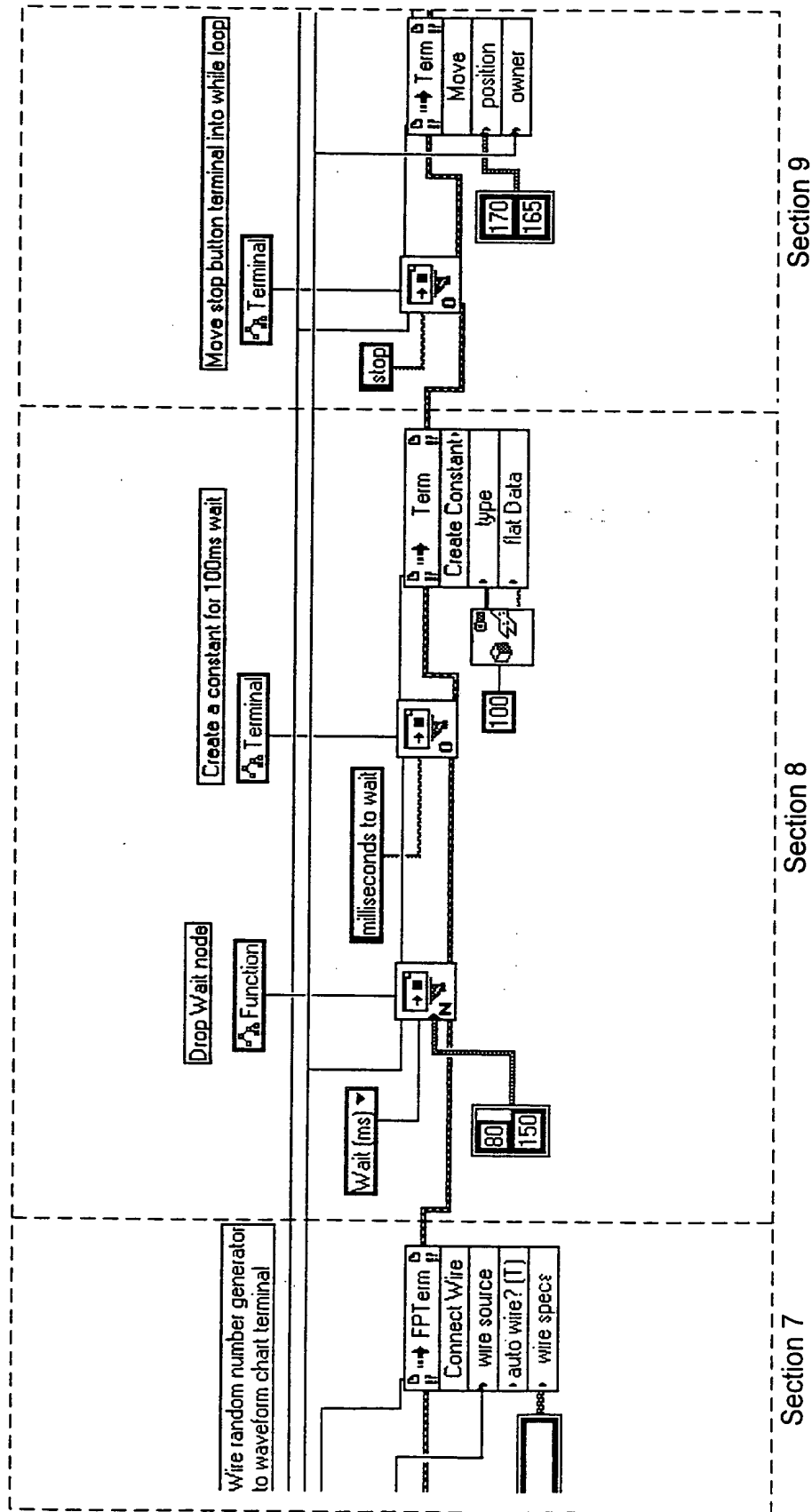
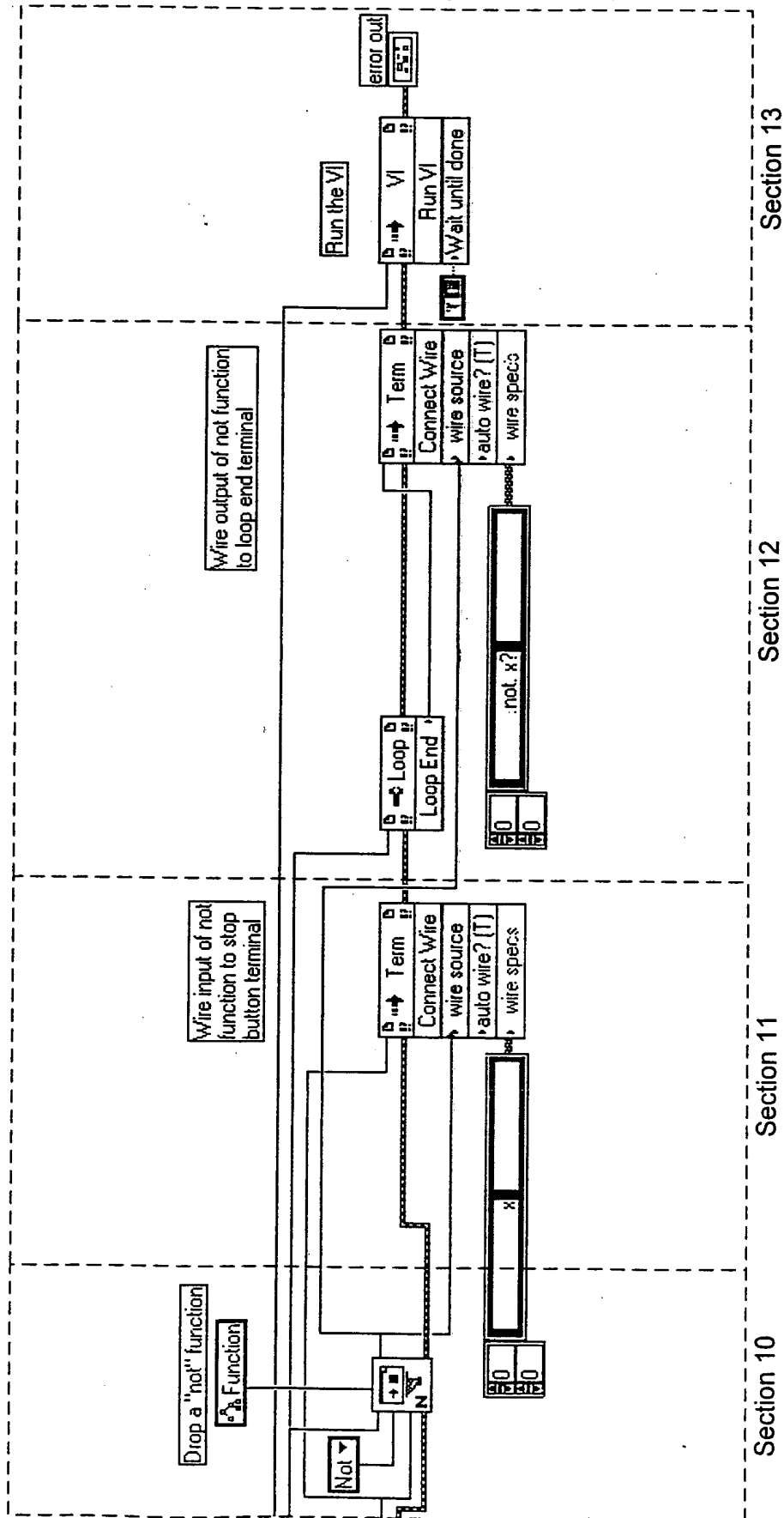


FIG. 44B

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Section 13

Section 12

Section 11

Section 10

FIG. 44B
 (Continued)



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Server Configuration

Preferences

Server: Configuration

Protocols

- ☒ TCP/IP Port 5151
- ☐ ActiveX

Server Resources

- ☒ VI Calls
- ☐ VI Methods and Properties
- ☐ Application Methods and Properties

OK Cancel

FIG. 45

Exported VIs Configuration

Preferences

Server: Exported VIs

Exported VIs

- ☒ c:\labview\server*
- ☒ c:\labview\test**
- ☒ c:\labview\test\private.vi
- ☒ srvr_*.vi
- ☒ local_*.vi

c:\labview\server*

- ☒ Allow Access
- ☐ Deny Access

Add Remove

OK Cancel

FIG. 46

TCP/IP Access Configuration

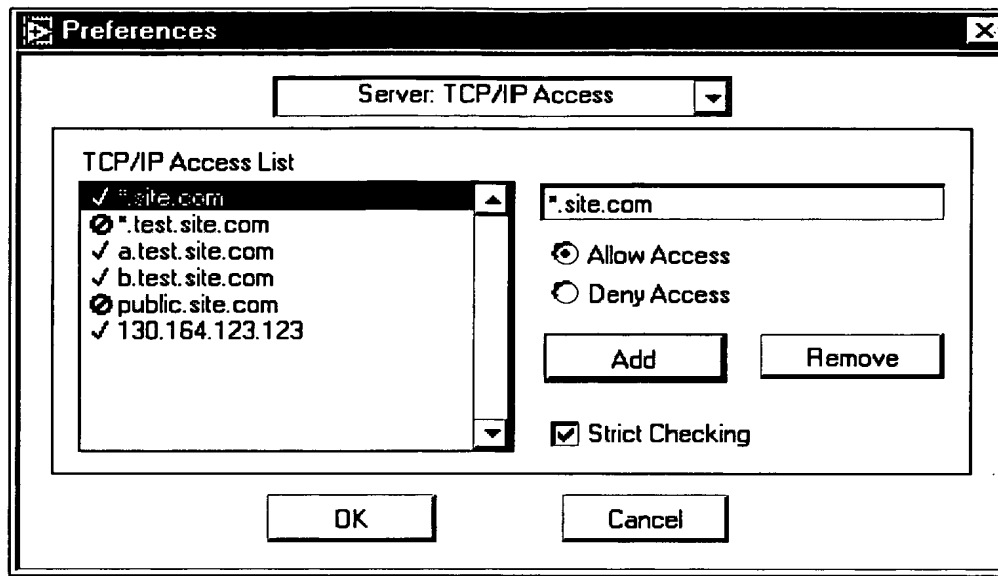


FIG. 47

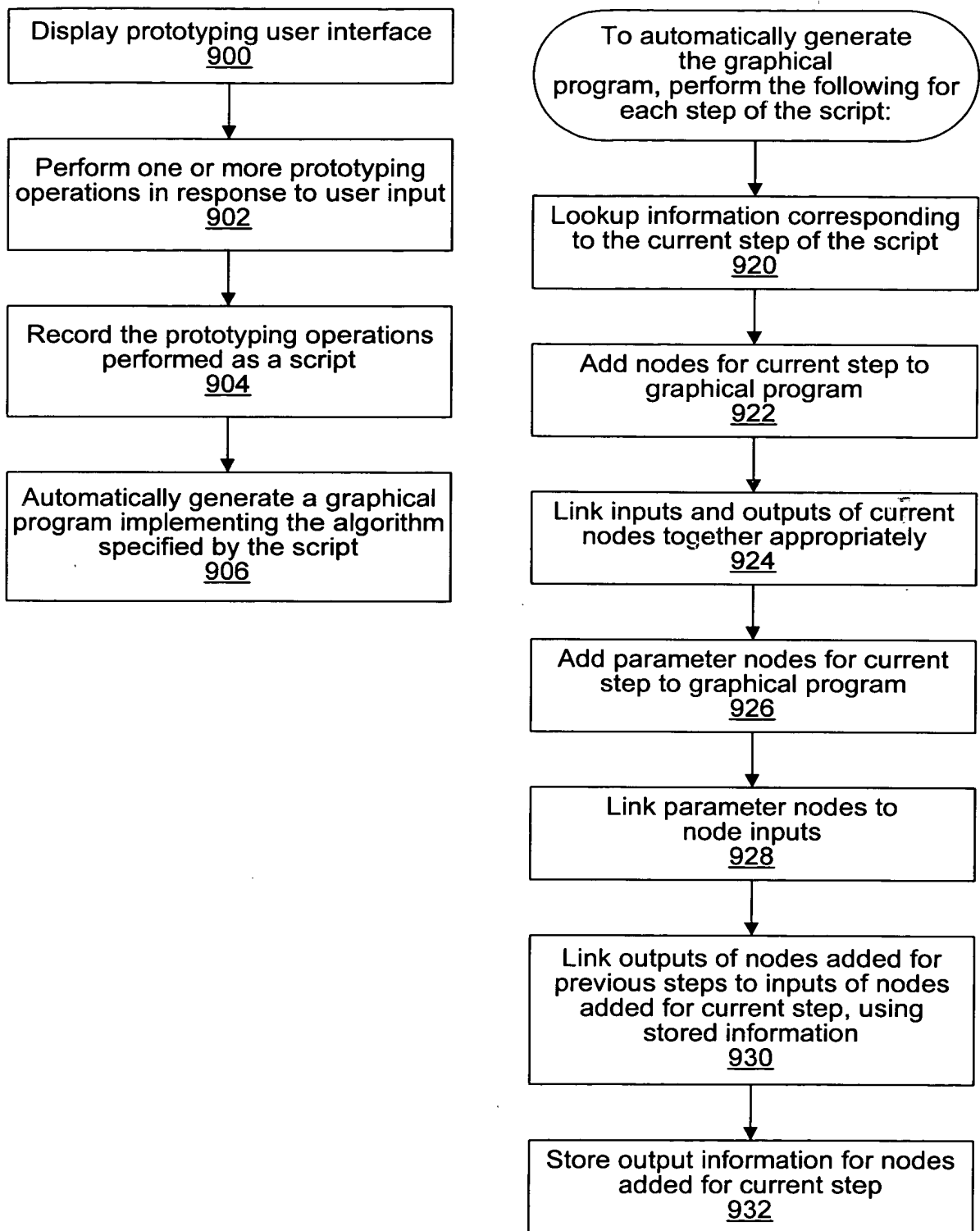


FIG. 48